1/5/98

ENGINEERING CONTROLS ATTEMPTED

1. Hydro Blasting- we started this on 7-21-97 and this method just took the sea shells and some of the algae off.

2. Coppus Blowers- due to the wind changes this was blowing the dust back onto other employees in the area. This would cause other employees to be exposed to the silica hazard.

3. Wetting down the concrete- this caused the diamond wheel to gum up and made a pasty film on the concrete, which affected the finished product. At this stage of the job we were on the finished product. This was important because the state looked at the finished product before accepting any of our finished work.

4. Hepa system- this was not ergonomically feasible for these reasons:

A. The weight of the back pack, 18 lb.
B. The weight of the 9" grinders are 18 lb.
C. The extra strain on the back from the Hepa pack could cause a soft tissue injury because of the different positions the employees needed to be in to do the work. The Hepa system was also not feasible because the hose pulls on the grinder causing it to dip and leave impressions in the finished product.

The company also wrote to Black & Decker and asked if they offered a Hepa filtering system for their 9" grinder or dust collecting unit for their sander grinders.

Black and Decker sent a letter back to stating they did not offer a Hepa filtering system or any dust collecting unit for their sanders or grinders, including the 9" model 4075.

After attempting each of the above engineering controls, I talked to at the Portland bridge and asked him what types of control he tried on the bridge.

I went over the engineering controls I tried and he went over the engineering controls he had tried on the bridge.

He went over the testing on silica he had done and the results.

After attempting each of the above engineering controls we felt that the best solution for protecting our employees was the 3m 6000 half face air purifying respirator with Hepa 2047 filters. Which are a high efficiency respirator approved for dusts, fumes, mist and asbestos.

As a safety specialist my job is to make sure our employees are protected from hazards. We felt after looking at the engineering controls that the best protection for our employees working with Silica was half face 3m 6000 air purifying respirator with Hepa 2047 filters. This respirator will protect the employees 10 times the OSHA PEL and from the sampling taken by and myself these respirators were more than adequate.

At this point I talked to the foreman and advised him we need administrative control.

We need to limit the work on grinding for 5 hours or employee rotation.

The other administrative controls used was to advise other employees of silica work in the area.

The third thing we did was to isolate the employee doing the silica work from the rest of the employees.

ENGINEERING CONTROLS ATTEMPTED

1. Coppus Blowers: Due to the wind changes this was blowing the dust back onto other employees in the area.

2. Hydro-blasting: This method just took the sea shells and some of the algae off.

3. Wetting down the concrete: This caused the diamond wheel to gum up and made a pastey film on the concrete, which affected the finished product.

4. HEPA system: This was not ergonomically feasible for the following reasons:
   a) The weight of the pack is 18 lb.
   b) The weight of the 9" grinder is 18 lb.
   c) The extra strain on the back from the HEPA pack could cause a soft tissue injury because of the different positions the employee needs to be in to do the work.

   The HEPA system was also not feasible because the hose pulls on the grinder causing it to dip and leave impressions in the finished product.

SOLUTION

After attempting each of the above engineering controls we felt that the best solution for protecting our employees was to use the 3M 6000 half-face air purifying respirator with the HEPA 2047 filters which are a high efficiency respirator approved for dusts, fumes, mists, and asbestos.

6/30/98 For Section 9 of ISA. Any action required? NO

June 8, 1998

JUN 15 1998

U.S. Department of Labor
Occupational Safety and Health Administration
279 Pleasant St., Suite 201
Concord, NH 03301

RE: OSHA inspection #300444635 at the Dover, NH

Dear

In response to the inspection number above, this letter and attachments is notification of silica medical surveillance program as required by the settlement agreement. Medical Director recommended the attached medical surveillance protocol for silica (attachment A) after review of Appendix C of the SEP, discussion with of the Bangor OSHA office, input from the Office of Occupational Medicine, U.S. Department of Labor, and an extensive medical literature review. Also included as attachment B is the silicosis medical questionnaire that will be administered as part of the protocol and attachment C which is the silicosis medical exam referenced in attachment A.

Please contact if you have any questions or concerns regarding these items.

Respectfully,

Manager of Health and Environmental Hazards

cc:

file

Medical Surveillance Protocol
Silica

I. Silicosis medical questionnaire added to preplacement physical exam process.

II. New respirator questionnaire incorporated into preplacement physical process.

III. Baseline PFT is provided in preplacement process.

IV. Continue annual respirator questionnaire as current (substituting new questionnaire for old).

V. Add silicosis questionnaire to annual respirator questionnaire process.

VI. Continue standard PFT every three years.

FVC
FEV_1
FEV_1/FVC

VII. Follow up examinations may be ordered by medical director after regular review of above information and may be triggered by:

A. Signs and symptoms of silicosis not explained by a non-silica exposure related currently existing medical condition.

B. Clinically significant PFT results:

1. FVC < 70% of predicted

2. FEV_1/FVC and FVC < 70% of predicted

3. Other change deemed clinically significant by medical review (e.g. 15% decreased FVC annually)

VII. Follow up examinations will consist of the "Silica Medical Exam" and specialized PFT (DLCO and/or radiographic TLC). It may include a chest x-ray if clinically indicated and not done as part of specific respiratory function testing.

IX. In the event that silica induced pulmonary disease is suspected, the employee will be removed from potential exposure until a final medical determination is made.

Silicosis Medical Questionnaire

The following set of questions is asked to help us determine your exposure to crystalline silica - the basic ingredient in sand, quartz, and granite.

I. Have you been involved in activities such as:

	At any Time	Within Last year	No
a. sand blasting	☐	☐	☐
b. rock drilling/concrete drilling	☐	☐	☐
c. roof bolting	☐	☐	☐
d. foundry work	☐	☐	☐
e. stone cutting or drilling	☐	☐	☐
f. quarrying	☐	☐	☐
g. brick/block/concrete cutting or demolition	☐	☐	☐
h. granite operations	☐	☐	☐
i. lead based paint sealer applications encapsulant	☐	☐	☐
j. asphalt paving manufacture	☐	☐	☐
k. use of diatomaceous earth	☐	☐	☐
l. repair/replace rotary kiln linings	☐	☐	☐
m. sorting, grading, washing crops (potatoes, beans)	☐	☐	☐
n. manufacture of sand blast material	☐	☐	☐
o. mining	☐	☐	☐
p. manufacture of soaps and detergents	☐	☐	☐
q. mixing grout	☐	☐	☐
r. any other rock or concrete dust activities	☐	☐	☐

How many years have you participated in the above work tasks?_____

II. Have you ever worked with any of the following materials listed below?

	At any time	Within last year	No	Unknown
a. Asbestos	☐	☐	☐	☐
b. Silica	☐	☐	☐	☐
c. Tungsten/cobalt	☐	☐	☐	☐
d. Beryllium	☐	☐	☐	☐
e. Aluminum	☐	☐	☐	☐
f. Coal	☐	☐	☐	☐
g. Iron	☐	☐	☐	☐
h. Tin	☐	☐	☐	☐
I. Dusty environments	☐	☐	☐	☐

If you worked in a dusty environment, was the dust exposure:

1. Mild_____ 2. Moderate_____ 3. Heavy_____

4. How long did it last?_____5. What was the activity?_____

III. Have you ever had a positive skin test for tuberculosis or been told that you have tuberculosis? Yes ☐ No ☐

Silicosis Medical Exam

RR_____ P_____ BP_____

	Normal	Abnormal
LUNGS		
Character of respirations	_____	_____
Inspiration/expiration ratio	_____	_____
Breath sounds	_____	_____
Percussion	_____	_____
Diaphragmatic excursion	_____	_____
ENT		
Mucous membranes	_____	_____
Septum	_____	_____
Sinuses	_____	_____
HEART		
Rate	_____	_____
Rhythm	_____	_____
Auscultation	_____	_____
Percussion	_____	_____
JVP	_____	_____
PFT's (see spirometry scheme)		
FVC	_____	_____
FEV_1	_____	_____
FEV_1/FVC	_____	_____

*CXR (PA - "B" READER)

*Optional as indicated

June 1, 1998

US Dept. of Labor
Occupational Safety & Health Administration
279 Pleasant St., Suite 201
Concord, NH 03301

U...
... 1998

Re: . Dover, NH

Dea

This letter is to inform you that has been transferred to another project and has been replaced by on the
has assumed the safety specialist responsibilities on this project including silica sampling. The on site Project Superintendent, . has overall responsibility for safety compliance on this project and will be available to address any concerns.

If any questions arise that require additional safety support we have other resources available in our corporate and regional offices will also be made available as needed.

Please do not hesitate to call us if you have any questions or concerns.

Very truly yours,

Regional Safety Superintendent

c:

2-3-98

Durham, NH 03824
February 23, 1998

review & file

Area Director
US Dept. of Labor
Occupational Safety & Health Administration
279 Pleasant St., Suite 201
Concord, NH 03301

FEB 27 1998

RE: OSHA inspection # 300444635 at the in Dover, NH

Dear

In response to the inspection number above, this letter details the actions that have been taken and the plans that have been developed to abate the 29 CFR 1926.55 (a) & (b) citations issued for our jobsite on December 12, 1997. At the time of the inspection, the westbound half of the new bridge was under construction. Activities also included concrete repair work on the new bridge piers.

On October 16, 1997 OSHA conducted personal silica sampling on two employees while they were grinding on concrete pier stems and caps under the westbound lanes of the new bridge. The employees sampled, were notified of OSHA's sampling results in a letter dated December 22, 1997. As part of the settlement agreement, these employees were offered chest x-rays, at no cost to them, in an effort to determine the presence or likelihood of developing silicosis with future exposure to silica. The letters offering the chest x-rays were dated January 22, 1998. The employees were instructed to respond to this offer by February 1, 1998. Copies of both letters are enclosed.

Accepted offer and was scheduled for a chest x-ray on February 10, 1998 at the Southern Maine Medical Center in Biddeford, ME. The x-rays were then sent to Mercy Hospital in Portland, ME where a radiologist knowledgeable in dust diseases, read the x-rays. These x-rays were compared to chest x-rays had had on September 30, 1986. The doctor found "no specific changes of pneumoconiosis and in particular silicosis". In a report dated February 19, 1998 reported that "the radiographic appearance of the chest is within normal limits for a patient of this age group and habitus". A copy of the doctor's report is enclosed.

To date has not returned the response letter. He is currently working for another employer and has not contacted us, despite several attempts to contact him. Phone messages were left at his home on February 4, 1998 and February 12, 1998.

Pittsfield, Maine 04967 · Fax

After careful consideration of the work environments where concrete grinding may occur, the use of a dust collection system has been identified as the primary means of preventing respirable silica exposure at the [jobsite. Due to the frequent wind direction changes and traffic passing over the bridge, tenting areas in and using local exhaust would be ineffective. Because of the risk of electrical shock from powered grinders, a "wet down" system would be impractical as well.

In the past few months personnel at the jobsite and ' Safety Department have been reviewing product information from several manufacturers of hand grinders with dust extraction systems. These include CS Unitec, Trelawny, Nilfisk, and Saw Tec. Each product is being evaluated based on it's quality of design, durability, and ability to perform effectively in many diversified environments.

An important consideration at the] jobsite is the tool's ability to capture dust effectively while grinding on a rounded surface, like the concrete piers. Another concern is the system's mobility. A vacuum unit must be easily movable underneath the bridge and must be operable in wet environments. Also, the vacuum hose must be long enough to reach work areas and durable enough to withstand abrasive surfaces and adverse weather conditions.

A very important component of selection criteria is the system's effectiveness in actual field conditions. Therefore, we arranged a demonstration at the] jobsite of a possible unit we may purchase. On February 20, 1998 ., a sales engineer for Power Products in Walpole, MA demonstrated CS Unitec's LD 1509 FR Concrete Grinder with the CS 34 K Dust Extraction system a mployee, tested the grinder on a 52" diameter concrete "donut" section. Pictures of this demonstration are enclosed. jobsite personnel were very pleased with the unit's performance, and ability to contain the silica dust on a rounded surface. However, this system and similar systems must be evaluated by our Equipment Procurement Group at (office before a final decision is made on which product to purchase. , is doing a similar demonstration of the CS Unitec system at office on February 27, 1998.

With engineering controls in place this summer, the need for administrative controls, such as restricted access to work areas, employee rotation, and respiratory protection may not be necessary once exposure levels have been established for certain activities. However, until a minimum of 2 air samples, taken at least 7 days apart, show results below permissible exposure limits, a minimum of half face respiratory protection will be worn, and employees will be restricted to 4 hours of grinding per day in a controlled access work area. If, on the other hand, sampling results show greater than the PEL for 4 hours, employees will be restricted to less than 4 hours per day in accordance with the PEL limits, and engineering controls will be reevaluated. When silica-generating activities or conditions change, the same procedures will be followed until exposure levels are established.

We are confident that our abatement techniques will be very effective in controlling silica dust exposure this summer. I am the on-site safety specialist at the and am equipped with an environmental monitoring kit which I've been trained and certified to use. Also, training sessions on the hazards of silica have been presented to crews at several of our jobsites, including the jobsite. A copy of the training sheet is enclosed. , our project superintendent, has undergone additional silica training at a regional superintendent's meeting on December 12, 1997.

commitment to prevent harmful silica dust exposure to jobsite employees is demonstrated by recent work activities on site. We are currently demolishing the old Scammell Bridge. This demolition is necessary for us to build the eastbound half of the new bridge, in its place, this summer. A summary of the silica monitoring that was conducted and the controls that were implemented for our this work is enclosed.

An illustration of one of the engineering controls we designed for our subcontractor is also enclosed. The picture shows the demolition of a concrete counterweight with a hydraulic hammer. designed a "wet down" system using a 1" PVC pipe with holes drilled at 1 foot intervals, and placed it atop the steel framework of the concrete counterweight. A submersible pump was placed in the river and water was pumped from a fire hose into the pipe, which sprayed the counterweight as it was being demolished. Silica air sampling was conducted to determine the effectiveness of this control, and the results were far below permissible exposure limits.

If you have any questions or comments regarding these abatement items, please contact myself at , at the jobsite at . For questions related to corporate safety department policies and procedures, please contact

Sincerely Yours,

Safety Specialist

c: Project Superintendent
Director of Safety & Human Resources
Assistant Safety Director
Regional Safety Suprintendent
Manager of Environmental Hazards
Manager of Projects - Southern ME area
on file

Durham, NH 03824
December 22, 1997

Re:
N.H. Project No.: 11657
CJN: 116026

Dear

Enclosed you will find notification of the recent inspection from working at our Dover, New Hampshire jobsite.

Please note that it has been determined that employees were adequately protected with half face respirators.

If you have any questions or concerns, feel free to call.

Very truly yours,

Project Superintendent

Encl.
c:
Corporate File
Regional File
Job File

Durham, NH 03824
December 22, 1997

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Encl.
c:
Corporate File
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Job File

OSHA COLLECTED AIR SAMPLING RESULTS

SCREENING SAMPLES *				
DATE/TIME	EMPLOYEE-JOB	CHEMICAL	RESULTS	LIMITS
10/14/97	Bulk from Bridge Deck	Silica (Crystalline Quartz)	20.0%	N/A
10/16/97	Bulk from "float"	Silica (Crystalline Quartz)	20.0%	N/A

FULL SHIFT SAMPLING **				
DATE/TIME	EMPLOYEE-JOB	CHEMICAL	RESULTS	LIMITS ***
10/16/97		Respirable Silica	2.61 mg/m^3	0.721 mg/m^3
10/16/97		Respirable Silica	1.58 mg/m^3	0.821 mg/m^3

** RESULTS OF FULL SHIFT SAMPLING ARE EXPRESSED AS AN 8-HR TWA
***THE LIMITS GIVEN ARE THE DERIVED PERMISSIBLE EXPOSURE LIMITS BASED ON THE PERCENTAGE OF SILICA IN EACH OF THE SAMPLES COLLECTED

$$PEL = \frac{10\ mg/m^3}{\%\ silica + 2}$$

TWA-time weighted average
PEL-permissible exposure limit-unless otherwise specified it is expressed as an 8 hr TWA
MG/M3-milligrams per cubic meter

U.S. Department of Labor

Occupational Safety and Health Administration
Concord Area Office
279 Pleasant Street, Suite 201
Concord, NH 03301
(603) 225-1629
(603) 225-1580 FAX

December 3, 1997

Reply to the Attention of: 300444635

These results were reviewed with the current crew at the job in a morning meeting on 12/15/97.

Attn·

Pittsfield, ME 04967

Dear

Enclosed you will find the sampling results from our recent inspection of your workplace.

Please note the following exposures exceed the OSHA permissible exposure limits (PEL):

Both employee air sampling tests performed on 10/16/97 during grinding of the stems and heads below the westbound lanes of the new .

Please note 1910.20 requires that you maintain all medical and exposure records such as these sample results for at least 30 yr. You must also make the results available to employees or former employees and notify employees annually of their right of access to these results. These requirements are discussed in an enclosed pamphlet.

Should you have any questions concerning this information do not hesitate to contact us at the above address.

Durham, NH 03824
January 22, 1998

Re:
N.H. Project No.: 11657
CJN: 116026

Dear

Enclosed is the air sampling work sheet completed for you during the point and patch and grinding on the pier stems and caps. Also find the collected air sampling results used to determine the permissible exposure limits for Silica. From our previous discussions, after reviewing the PEL results and comparing them to the respiratory protection worn, the protection factor was more than six times greater than what was needed for the work being done.

We are currently reviewing plans for a medical surveillance program for Silica and believe that we already have in place most , if not all, of what should be required for tests/examinations. Since there is a possibility we may include chest x-rays in this program, we would like to offer you at no cost, a chest x-ray to establish a baseline. A chest x-ray taken at this time would not be expected to show any change in your lungs as a result of recent exposure. It would allow us to be sure you have no lung problems that would be aggravated by future exposure to Silica. It would also serve as a bases for comparison in medical surveillance exams and x-rays in the future, should such tests be required. There is no obligation on your part to take the x-ray.

Please return this letter to me by February 1, 1998 in the enclosed self addressed stamped envelope, indicating your interest or no interest.

Very truly yours,

Project Superintendent

_____ YES I would like the chest x-ray.

_____ NO I do not want the chest x-ray.

Signature _____ Date _____

Durham, NH 03824
January 22, 1998

Re:
N.H. Project No.: 11657
CJN: 116026

Dea

Enclosed is the air sampling work sheet completed for you during the point and patch and grinding on the pier stems and caps. Also find the collected air sampling results used to determine the permissible exposure limits for Silica. From our previous discussions, after reviewing the PEL results and comparing them to the respiratory protection worn, the protection factor was more than six times greater than what was needed for the work being done.

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Please return this letter to me by February 1, 1998 in the enclosed self addressed stamped envelope, indicating your interest or no interest.

Very truly yours,

Project Superintendent

_____ **YES** I would like the chest x-ray.

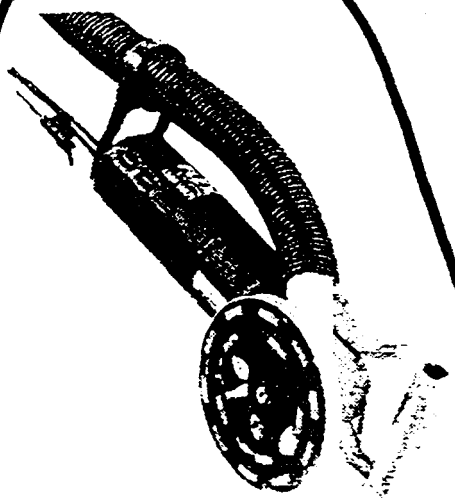
_____ **NO** I do not want the chest x-ray.

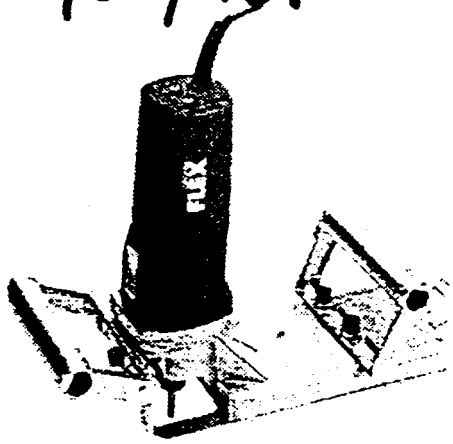
Signature _____ Date _____

C.S. UNITEC, Inc. 378 Ely Ave.. S Norwalk, CT 06854
Tel: (800) 700-5919 Fax: (203) 853-9522

CONCRETE REPAIR TOOLS WITH DUST EXTRACTION

This is the grinder & vacuum system that was demonstrated on our jobsite on 2/20/98.





LD 1509 FR Concrete Grinder
Ideal for removing coatings from concrete, surface preparations and spot repairs. Includes 5" diamond grinding wheel. Vacuum port 1-1/4". 11 AMP / 10,000 RPM . Weight: 6 lbs.

Standard Equipment:

5" diamond grinding wheel	(253.115)
dust extraction guard	(252.717)
clamping flange	(191.604)
cable clips (3)	(252.188)
hose clip	(252.050)
allen wrench	(102.229)
metal carrying case	(252.185)

Accessories:
5" diamond grinding wheel (253.115)

F1509 FR Joint Cutter
Removes brittle mortar from long & generally horizontal brick joints for rapid restoration of old brick buildings. Variable adjustable cutting to 1". Clear view of joints. Vacuum port: 1-1/8". 11 AMP 10,000 RPM. Wt: 7-1/2 lbs.

Standard Equipment:

holding wrench	(100.110)
open-end wrench	(100.102)
hex head wrench	(228.974)
cable clips (3)	(252.188)
metal carrying case	(228.966)

F 427 M Joint Pin Grinder
Ideal supplement for Joint Cutter. Removes brittle mortar from short & generally vertical brick joints for restoration of old buildings. Includes 3/8" diamond pin. Vacuum port 1-1/8". 4.1 AMP 27,000 RPM. Wt: 7-3/4".

Standard Equipment:

8 mm chuck	(229.768)
13mm wrench	(101.516)
19 mm wrench	(104.914)
3/8" diamond pin	(250.485)
hex head wrench	(104.167)
cable clips (3)	(252.188)
metal carrying case	(250.487)

Accessories:

1/4" diamond pin	(250.484)
3/8" diamond pin	(250.485)

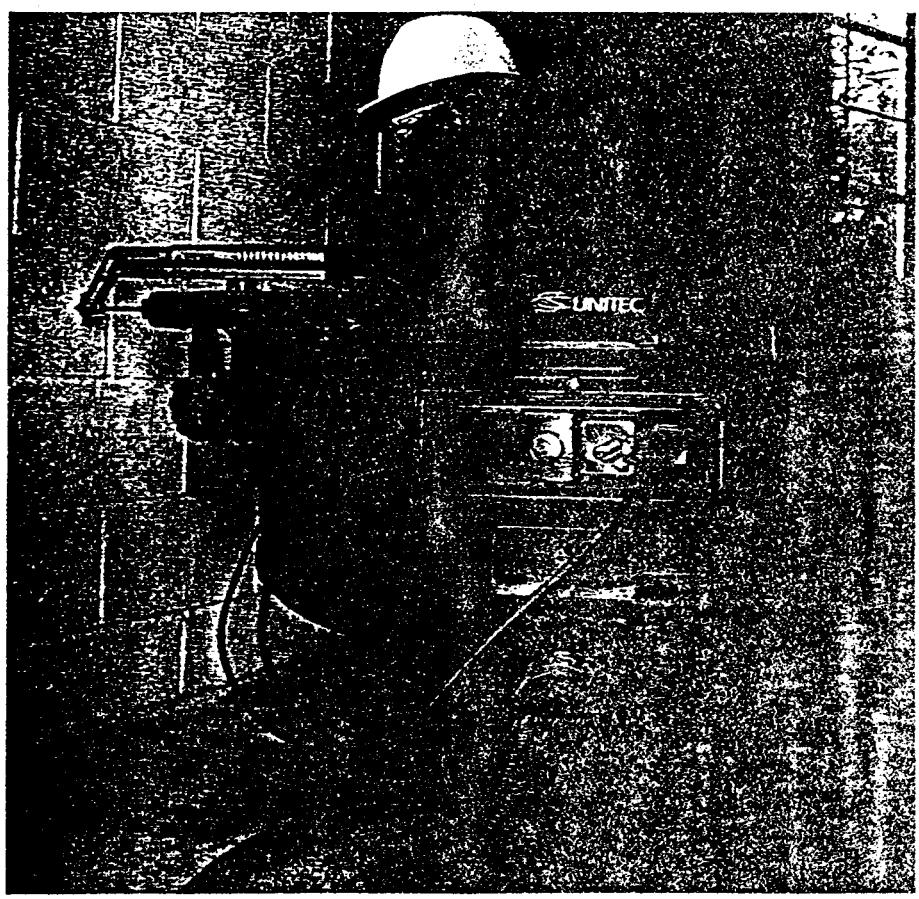
The CS 34 K Dust Extraction System

The CS 34 K power tool operated vacuum is for use in construction, industrial, automotive and marine applications. The vacuum operates wet or dry.

Benefits of removing chips and dust from the air:

- Cleaner, Safer, and more productive working conditions.
- Protects the environment
- Saves time on preparation and clean-up.
- Higher visibility increases worker output and accuracy.
- Longer abrasive and tool life.

Drill with Dust Extraction and CS 34 K Vacuum



Features of CS 34 K:

- Automatic "power take-off" outlet for electric tools (a special adaptor is also available to operate the CS 34 K vacuum with pneumatic tools).
- 99.85% filtration efficiency (for special filter and accessories for 99.97% @ 0.3 microns, consult your distributor).
- Shaker for cleaning dust deposits from filter.
- Quiet operation. Only 69 decibels.
- Electronic cut out sensor trips when container is full (wet only).
- Y adaptor available for two hose connection.

Standard equipment:

Model CS 34 K Includes: 10 Ft. Suction Hoses, Stepped Adaptor (for connecting hose to tool), Filter Bag, Crevice Tool.

Model CS 34 K/MAX Includes: Two 10 Ft. Suction Hoses, Two Stepped Adaptors, Y-Adaptor, Five Filter Bags, Crevice tool.

CS Unitec, Inc.
378 Ely Avenue
South Norwalk, CT 06854
TOLL FREE: 800-700-5919
Tel: (203) 853-9522
FAX: (203) 853-9921

Distributed By:

✓ YES I would like the chest x-ray.

____ NO I do not want the chest x-ray.

Signature ____ Date 1/29/98

Recd 1-5-98
CAO-OSHA

Page may be illegible –
best available copy.

WORK ACTIVITY/HAZARD ANALYSIS PLANNING

Date: 11-26-96 Job #: 115031

Project: Prepared by:

Scope of work: Paint and Power inside of Service building

Cog. Engineer: Ext. #

Competent/Qualified Person(s): Ext. #

Location: [illegible]

Est. Start: 12-2-96 Est. Finish: 12-6-96 Est. Hours: 40

Reviewers (Signature):

Superintendent: Foreman: Safety Specialist:

Crew Review:

Print Name	Sign Name	Social Security #

Emergency Phone Numbers: (*) Cellular phone located in crew conex for emergency use.

Control Room: — Fire: 911 First Aid: (T.B.D.)

Security: — Ambulance: 911 Police: 911

Escape Route/Assembly Point: Up through Service building to South Approach Deck. Assemble where cars are parked.

Page may be illegible – best available copy.

ENGINEERING BACKUP SHEET

Project _____ Date 11-26-96 Sheet ____ ____

Subject Emergency Numbers Job No. 115021 Initials _____

911 will connect you to the state police. Ask them to transfer you to what you need (Patrick Police & Portland Police (or Fire Dept) or Ambulance

Fire 911
Police 911
Ambulance 911

directions: Some Portland side of new million dollar bridge. Turn onto new street beside Yankee Fare. Enter gate onto new Bridge. Go as far as possible. (3 Large speed bumps)

Note: Don't hang up until after they hang up.
Send employee to Flatrow gate to guide ambulance in

Beeper:

If not an emergency enter # and
I will call you as soon as I can.
If an emergency enter 9911 and I will call you immediately.

Clinic/Hospital

until 9pm we will use Bryson Medical (urgent injuries)

After 9pm we will use Mercy Hospital Emergency (also for all major injuries)

will accompany everyone to clinic/hospital
(Supervisor if Scott not available)
Grab n Go package available in crew conex

Note: Do not have to dial 9 first using the cellular phone
(ie not 9-911 just 911)

To use cellular phone:

1. Flip bottom part open
2. Push PWR button
3. Dial number
4. Push red SND button
5. When done using push END button Don't forget!

ED 313

Rev 12/20/93

QA/QC: TO standards and MDOT specs

Page may be illegible – best available copy.

BUDGET: 200 workhours

SAFETY/PRODUCTION GOALS: Finish new building by 12-5-96
0 incidents - Look and see before each job

SCHEDULE: 4^{30}-2^{30} Am   4-10's
break 7pm 15 minutes
Lunch 11pm 30 minutes

MISC. NOTES:

Explain, step by step, how the activity will be performed:

(1) Install plastic "curtains" to cover doorways to keep the heat & Dust in
(2) If glass not in windows, cover with plastic
(3) Hook up Cap.s Blowers on level(s) being worked. Vent out the window (or vent hole on bottom level)
(4) Hook up Salamander heaters for level(s) being worked
(5) Deck over top of stairwell (Top level) with staging plank and plywood over that
(6) Chip and Patch top level Use 3'x5' rolling staging tower and stepladder
(7) Grind top level, remove decking from top of stairs
(8) Chip and patch middle level. Use 3'x5' rolling staging tower and on stairs use staging planks and ladder w/ Bracket (2 planks wide)
(9) Grind middle level
(10) Chip & patch & grind same as middle level
(11) Ongoing - Vacuum up dust as you go so doesn't build up. Avoid sweeping whenever possible so don't put dust back into the air

SMALL TOOLS

ITEM	QUAN	DESCRIPTION
1	2	Copus blowers w/ hose ✓
2	2	2'x5' Rolling staging towers ✓
3	2	Schrader Kero heater ✓
4	5	Trowels ✓
5.	4	4" grinders w/ diamond wheels ✓
6.	5	5" grinders w/ cups ✓
7.	1	7" grinder w/ diamond ✓
8.	1	7" grinder w/ cup ✓
9	7	elec cords ✓
10	5	Hilti chipping guns w/ chisel & bushhammer ✓
11	6	Lights ✓
12	1	Vacuum cleaner ✓
13	2	Stepladders ✓
14	1	ladder ✓
15		

CONSUMABLES

ITEM	QUAN	DESCRIPTION
	4gal	Acryl 60 ✓
	1 bag	Type II Portland cement ✓
	1 bag	Federal white cement ✓

EQUIPMENT REQUIREMENTS

ITEM	DESCRIPTION	EQUIP #	COMMENTS

The Scott Lawson Group, Ltd.
Environmental, Health & Safety Consultants
29 River Road, Suite 18
Bow, NH 03304
(800) 645-7674
FAX (603) 228-3871

Report Prepared For:

Pittsfield ME 04967

Report Date : December 23, 1997
SLGL Job # : 976064
Date Sampled : 12/10/97
Date Received : December 18, 1997
Collected by :
Client Project : Bath Iron Works

Air Volume : 576.1
Minutes : 338

SLGL Lab#	Sample Description	Analyte	Methodology	mg	mg/m3	8Hr-TWA mg/m3
114528-2	#97-BIW-009,	Quartz	NIOSH 7500	0.017	0.029	---
114528-3	#97-BIW-009, Vernon Horner	Cristobalite	NIOSH 7500	<0.005	<0.009	---
114528-4	#97-BIW-009,	Tridymite	NIOSH 7500	<0.005	<0.009	---

$\%Q = \frac{0.017}{0.24} = 7.08\%$ (% T, % C below detection limits)

$PEL = \frac{10\ mg/m^3}{7.08 + 2} = 1.1\ mg/m^3$

$TWA = \frac{(0.029 \times 0.5) + (0 \times 0.5)}{8} = 0.024\ mg/m^3$

Exposure = $\frac{0.024}{1.1} = 2.1\%$

Postive interferences that may have been found in the blank have been accounted for. SLGL laboratory certifications apply only to samples analyzed in-house.

< = Less than
* = Filter overloaded
** = Sample loss due to fine particulates
*** = Filter damage

Reviewed By : _____

Approved By : _____, Lab Manager

(dust.slt

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The Scott Lawson Group, Ltd.
Environmental, Health & Safety Consultants
29 River Road, Suite 18
Bow, NH 03304
(800) 645-7674
FAX (603) 228-3871

Report Prepared For:

Pittsfield ME 04967

Report Date : December 24, 1997
SLGL Job # : 976071
Date Sampled : Not Available
Date Received : December 22, 1997
Collected by :
Client Project : Mead Paper

Analyte : Respirable Dust
Methodology : NIOSH 0600

SLGL Lab#	Sample Description	Air Volume Liters	Minutes	mg	mg/m3	8Hr-TWA mg/m3
114755-1	#21 Super Cal, 97-M-009	509.4	300	0.25	0.49	---
114760-1	#21 Super Cal, 97-M-008	0.0	0	<0.02	<0.02mg	---

Positive interferences that may have been found in the blank have been accounted for. NLAH, laboratory certifications apply only to samples analyzed in-house.

< = Less than
* = Filter overloaded
** = Sample loss due to fine particulates
*** = Filter damage

Reviewed By : _____

Approved By : _____

Lab Manager _____

(dust analysis report)

The Scott Lawson Group, Ltd.
Environmental, Health & Safety Consultants
29 River Road, Suite 18
Bow, NH 03304
(800) 645-7674
FAX (603) 228-3871

Report Prepared For:

Pittsfield ME 04967

Report Date : December 24, 1997
SLGL Job # : 976064
Date Sampled : 12/8/97-12/10/97
Date Received : December 18, 1997
Collected by :
Client Project : Bath Iron Works

Analyte : Respirable Dust
Methodology : NIOSH 0600

SLGL Lab#	Sample Description	Air Volume Liters	Minutes	mg	mg/m3	8Hr-TWA mg/m3
114626-1	#97-BIW-007,	372.2	219	0.23	0.62	
114627-1	#97-BIW-008, Analytical Field Blank	0.0	0	<0.02	<0.02mg	—
114628-1	#97-BIW-009,	576.1	338	0.24	0.42	—
114629-1	#97-BIW-010, Analytical Field Blank	0.0	0	<0.02	<0.02mg	—

Positive interferences that may have been found in the blank have been accounted for. SLGL laboratory certifications apply only to samples analyzed in-house.

< = Less than
* = Filter overloaded
** = Sample loss due to fine particulates
*** = Filter damage

Reviewed By : _____

Approved By : _____
Lab Manager

(dust analyte report)

The Scott Lawson Group, Ltd.
Environmental, Health & Safety Consultants
29 River Road, Suite 18
Bow, NH 03304
(800) 645-7614
FAX (603) 228-8711

Report Prepared For:

Pittsfield ME 04967

Report Date : December 23, 1997
SLGL Job # : 976064
Date Sampled : 12/10/97
Date Received : December 18, 1997
Collected by :
Client Project : Bath Iron Works

Air Volume : 0.0
Minutes : 0

SLGL Lab#	Sample Description	Analyte	Methodology	mg	mg/m3	8Hr-TWA mg/m3
114629-2	#97-BIW-010, Analytical Field Blank	Quartz	NIOSH 7500	<0.005	<0.005mg	—
114629-3	#97-BIW-010, Analytical Field Blank	Cristobalite	NIOSH 7500	<0.005	<0.005mg	—
114629-4	#97-BIW-010, Analytical Field Blank	Tridymite	NIOSH 7500	<0.005	<0.005mg	—

Positive interferences that may have been found in the blank have been accounted for. SLGL laboratory certifications apply only to samples analyzed in-house.

< = Less than
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** = Sample loss due to fine particulates
*** = Filter damage

Reviewed By : _____

Approved By : _____, Lab Manager

(sheet #1)

The Scott Lawson Group, Ltd.
Environmental, Health & Safety Consultants
29 River Road, Suite 18
Bow, NH 03304
(800) 645-7674
FAX (603) 228-3871

Report Prepared For:

Pittsfield ME 04967

Report Date : December 29, 1997
SLGL Job # : 976071
Date Sampled : Not Available
Date Received : December 22, 1997
Collected by :
Client Project : Mead Paper

Air Volume : 509.4
Minutes : 300

SLGL Lab#	Sample Description	Analyte	Methodology	mg	mg/m3	8Hr-TWA mg/m3
114755-2	#21 Super Cal, 97-M-009	Quartz	NIOSH 7500	0.020	0.039	—
114755-3	#21 Super Cal, 97-M-009	Cristobalite	NIOSH 7500	<0.005	<0.010	—
114755-4	#21 Super Cal, 97-M-009	Tridymite	NIOSH 7500	<0.005	<0.010	—

$\%Q = \frac{.02}{.25} \times 100 = 8.0\%$

$PEL = \frac{10}{8+2} = 10\ mg/m^3$

for 10 hrs $= 0.8\ mg/m^3$

$TWA_{10} = \frac{(.49 \times 5) + 0(0 \times 5)}{10} = 0.245\ mg/m^3$

$TWA_8 = \frac{(.49 \times 5) + 0 \times 3}{8} = .306\ mg/m^3$

Positive interferences that may have been found in the blank have been accounted for. SLGL laboratory certifications apply only to samples analyzed in-house.

< = Less than
* = Filter overloaded
** = Sample loss due to fine particulates
*** = Filter damage

Reviewed By : _____

Approved By : _____

Lab Manager

(dust silica)

The Scott Lawson Group, Ltd.
Environmental, Health & Safety Consultants
29 River Road, Suite 18
Bow, NH 03304
(800) 645-7674
FAX (603) 228-3871

Report Prepared For:

Pittsfield ME 04967

Report Date : December 24, 1997
SLGL Job # : 976071
Date Sampled : Not Available
Date Received : December 22, 1997
Collected by :
Client Project : Mead Paper

Air Volume : 0.0
Minutes : 0

SLGL Lab#	Sample Description	Analyte	Methodology	mg	mg/m3	8Hr-TWA mg/m3
114760-2	#21 Super Cal, 97-M-008	Quartz	NIOSH 7500	<0.005	<0.005mg	—
114760-3	#21 Super Cal, 97-M-008	Cristobalite	NIOSH 7500	<0.005	<0.005mg	—
114760-4	#21 Super Cal, 97-M-008	Tridymite	NIOSH 7500	<0.005	<0.005mg	—

Positive interferences that may have been found in the blank have been accounted for. SLGL laboratory certifications apply only to samples analyzed in-house.

< = Less than
• = Filter overloaded
•• = Sample loss due to fine particulates
••• = Filter damage

Reviewed By : _____

Approved By : _____ Lab Manager

Rev. 11/13/96

Air Sampling Worksheet

Project: Bath Iron Works, Bath, ME Date: 2/10/97 Pump Voltage above 5 Yes ✓ No ___

Employee Name: _____ = Social Security #: _____

Employee Job Classification: 7041 Number of Employees Exposure Monitoring Represents 2

Activity Performed by Employee(s): Core drilling concrete wall, chipping concrete floor

Equipment/Tools Used (be specific): Hilti electric core drill, 9000 chipping hammer, electric drill

Personal Protective Equipment: Hardhat, safety glasses, Faceshield, ear muffs, kneepads

Respiratory Protection Used: None

Area Characteristics (outdoors, boiler cavity, 2,000 sq. ft. tank, etc.): Outdoors. Excavation outside of S. Hyde bldg at northwest corner. Excavation is ~ 8'Wx 80'L.

Ventilation Equipment Used (make/model, flow rate, equipment positioning): None

Additional Atmospheric Controls (dampers open, HEPA units, wet method, containment erected, etc.): Water hose is attached to Hilti core drill so drill area is continuously wet down.

Wind Direction/Speed (outdoor work only): Westerly → 0 to 1 mph

Temperature: 36°F Humidity: 46% (at sampling location) Bariometric Pressure: 29.83 Dew Point 17°F

Length of Shift: 8 hrs. Crew Size: 5 Total Length of Activity: 6.5 hrs.

Employee's work location and activities while not wearing sample pump: Carpenter's Shop - break & lunch; core drilling; set-up & clean-up; chipping Duration: 2 hrs., 22 mins.

Testing for:	Sample Number	Pump Number	Pump Start	Pump Stop	Total Time (min)	Avg Cal. Flow Rate (liters)	Total Volume (LPM)	Calibration Flow Rate Before	Calibration Flow Rate After
Respirable Dust/ Silica	97-BIW-009	14a	9:22 AM	3:00 PM	338	1.7045	576.121	1.700	1.709
Respirable Dust/ Silica	97-BIW-010	BLANK							

Total Volume (LPM) = Total Time (Min) X Avg. Cal. Flow Rate (Liters)

Sample Coordinator: _____ Print _____ Initial _____ Social Security Number _____ Indoor/Outdoor Work: Outdoor

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Rev. 11/13/96

Air Sampling Worksheet

Project: Bath Iron Works, Bath/ME Date: 12/1/97 Pump Voltage above 5 Yes ✓ No ___

Employee Name: _____ Social Security #: _____

Employee Job Classification: 3275 Number of Employees Exposure Monitoring Represents 5

Activity Performed by Employee(s): Hoe-ramming concrete floor slab in basement of S. Hyde building.

Equipment/Tools Used (be specific): "Bobcat" mini-excavator w/hoe-ram attachment

Personal Protective Equipment: Hardhat, ~~safety~~ glasses, earplugs, work gloves

Respiratory Protection Used: None

Area Characteristics (outdoors, boiler cavity, 2,000 sq. ft. tank, etc.): Indoors. Basement of S. Hyde Bldg. Slab area ~ 10'W x 40'L.

Ventilation Equipment Used (make/model, flow rate, equipment positioning): 4 - Copus type blowers. 2 - located on concrete slab, 2 - located in ventilation holes in wall. All blowers directed towards ventilation holes in north wall.

Additional Atmospheric Controls (dampers open, HEPA units, wet method, containment erected, etc.):

Constant water spray onto area on slab being hoe-rammed.

Wind Direction/Speed (outdoor work only): N/A

Temperature: 71°F Humidity: 56% Barometric Pressure: 29.47 Dew Point 51°F
(at sampling location)

Length of Shift: 8 hrs. Crew Size: 6 Total Length of Activity: 3 hrs.

Employee's work location and activities while not wearing sample pump: Basement, S. Hyde - hoe ramming break + lunch. Duration: 5 hrs.

Testing for:	Sample Number	Pump Number	Pump Start	Pump Stop	Total Time (min)	Avg Cal. Flow Rate (liters)	Total Volume (LPM)	Calibration Flow Rate Before	Calibration Flow Rate After
Resp. Dust / Silica Dust	97-BIW-003	14	10:30 AM	2:30 PM	180	1.702	306.36	1.698	1.706
Resp. Dust / Silica Dust	97-BIW-004	N/A	~~NEG~~ 12/1/97	~~97~~	BLANK				

Total Volume (LPM)= Total Time (Min) X Avg. Cal. Flow Rate (Liters)

Sample Coordinator: _____ _____ _____ Indoor/Outdoor Work: Indoor
Print Initial Social Security Number

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Air Sampling Worksheet

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Project: MEAD PAPER Date: 12/17/97

Employee Name: _____ Social Security #: _____

Employee Job Classification: 7000 Number of Employees Exposure Monitoring Represents 3

Activity Performed by Employee(s): CHIPPING CONCRETE AND REMOVING "Q" DECKING ON OPERATION FLOOR NO 2 SUPERCALANDER BLDG ELEV 454 ZONE 1

Equipment/Tools Used (be specific): HILTI TE-74 #ecolocked

Personal Protective Equipment: HARD HAT, EYE WEAR, FACE SHIELD, STEEL TOE BOOTS

Respiratory Protection Used: 3M - 6000 HALF FACE NEG PRESSURE AIR PURIFYING

Area Characteristics (outdoors, boiler cavity, 2,000 sq. ft. tank, etc.): 15 FT x 2 FT 30 SQ FT INDOOR

Ventilation Equipment Used (make/model, flow rate, equipment positioning): N/A INSIDE A-2 MOULD EFFECT MILL EMPLOYEES

Additional Atmospheric Controls (dampers open, HEPA units, wet method, containment erected, etc.): WET THE CONCRETE DOWN / HAS A SHOP VAC 5HP 150 MPH BLOWER VELOCITY 16 GALLON

Wind Direction/Speed (outdoor work only): N/A

Temperature: 70° Humidity: 43% Bariometric Pressure: 29.53 Dew Point: 0
(at sampling location) BAROMETRIC TREND →

Length of Shift: 10 Crew Size: 3 Total Length of Activity: 6 HRS

Employee's work location and activities while not wearing sample pump: # 10 pm TOOL CRIB FOR LUNCH
5.1.CA TRAC 1HR Duration: 4HR / CHIPPING/MONITOR 30 MN / LUNCH 1 HR / UNLOADING 4HR / ANOTHER JOB

Testing for:	Sample Number	Pump Number	Pump Start	Pump Stop	Total Time (min)	Avg Cal. Flow Rate (liters)	Total Volume (LPM)	Calibration Flow Rate Before	Calibration Flow Rate After
SILICA	97-M-005	4/A	8:30AM	1:30PM				1.698	1.698
SILICA	97-M-004	4A	8:00AM	1:30PM	300MN	1.698	509.4	1.698	1.698

Total Volume (LPM)= Total Time (Min) X Avg. Cal. Flow Rate (Liters)

Sample Coordinator: _____ _____ _____ _____ For/Outdoor Work: INDOORS
Print Initial Social Security Number

Rev. 8/29/96

Air Sampling Worksheet

Project: NEW LONDON STATE PIER Date: 4/4/97

Employee Name: [redacted] Social Security #: _____

Employee Job Classification: FINISHER Number of Employees Exposure Monitoring Represents 2

Activity Performed by Employee(s): CUTTING, DRILLING & SANDING ON CONCRETE

Equipment/Tools Used (be specific): 6" GRINDER – HILTI IMPACT DRILL

Personal Protective Equipment: FULL PPE AS PER CIANBRO

Respiratory Protection Used: 1/2 MASK / AO MED.

Area Characteristics (outdoors, boiler cavity, 2,000 sq. ft. tank, etc.): OUT DOORS, CLEAR, SUNNY MILD BREEZE, ON WATER

Ventilation Equipment Used (make/model, flow rate, equipment positioning): NATURAL

Additional Atmospheric Controls (dampers open, HEPA units, wet method, containment erected, etc.): PUMP & WATER

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Wind Direction/Speed (outdoor work only): 18 MILES PER

Temperature: H 67 / L 48 Humidity: H 64% / L 27% Bariometric Pressure: 30.18 Dew Point H 41° KVP / L 30°
(at sampling location)

Length of Shift: 10 HRS Crew Size: 2 Total Length of Activity: 8:00 HRS OR 480 MIN.

Employee's work location and activities while not wearing sample pump: 10' FROM WORK AREA

Duration:

Testing for:	Sample Number	Pump Number	Pump Start	Pump Stop	Total Time (min)	Avg Cal. Flow Rate (liters)	Total Volume (LPM)	Calibration Flow Rate Before	Calibration Flow Rate After
SILICA	NL-4-4 97-1	20A	N/A	N/A	480	N/A		4/7/97 KVP ~~1775~~ 1803	4/7/97 KVP ~~1800~~ 1832
SILICA	NL-4 4-97-2	20A	7:30 AM	3:30 P.M.	480	1775		4/7/97 KVP ~~1775~~ 1803	4/7/97 KVP ~~1800~~ 1832

Total Volume (LPM)= Total Time (Min) X Avg. Cal. Flow Rate (Liters)

Sample Coordinator: L _____ _____ _____ Indoor/Outdoor Work: _____
Print Initial Social Security Number

- Rev. 8/29/96

Air Sampling Worksheet

Project: Bridgeport 97 Date: 1-8-97

Employee Name: [redacted] Social Security #: [redacted]

Employee Job Classification: Operator Number of Employees Exposure Monitoring Represents 3

Activity Performed by Employee(s): Hoe Ramming Counter Wieght in basculae pit

Equipment/Tools Used (be specific): Hoe Ram

Personal Protective Equipment:

Respiratory Protection Used: None

Area Characteristics (outdoors, boiler cavity, 2,000 sq. ft. tank, etc.): outdoors in basculae pit

Ventilation Equipment Used (make/model, flow rate, equipment positioning): Copus Fan

Additional Atmospheric Controls (dampers open, HEPA units, wet method, containment erected, etc.):

None

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Wind Direction/Speed (outdoor work only): SW Cold

Temperature: 20° Humidity: — Bariometric Pressure: — Dew Point —
(at sampling location)

Length of Shift: 7-3:30 Crew Size: 16 Total Length of Activity: All day

Employee's work location and activities while not wearing sample pump: Lunch Trailor

Duration:

Testing for:	Sample Number	Pump Number	Pump Start	Pump Stop	Total Time (min)	Avg Cal. Flow Rate (liters)	Total Volume (LPM)	Calibration Flow Rate Before	Calibration Flow Rate After
Silica	97-Bri-003	1	7:30	12:00	270	1.7	459	1.7	1.7

Total Volume (LPM)= Total Time (Min) X Avg. Cal. Flow Rate (Liters)

Sample Coordinator: [redacted] Indoor/Outdoor Work

Print Initial Social Security Number

Rev. 8/29/96

Air Sampling Worksheet Voltage 5.21

Project: Repair Floor Bldg #7 FMC Date: 2/28/97

Employee Name: _____ Social Security #: _____

Employee Job Classification: Equip Operator Number of Employees Exposure Monitoring Represents 3

Activity Performed by Employee(s): Hoe Ramming Concrete

Equipment/Tools Used (be specific): Bob Cat with a hoe ram

Personal Protective Equipment: Tyvek Suit

Respiratory Protection Used: N/A

Area Characteristics (outdoors, boiler cavity, 2,000 sq. ft. tank, etc.): Building with approx. 7500 Square feet, wall edge of roof approx 10' to pitch 16'.

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Ventilation Equipment Used (make/model, flow rate, equipment positioning): 4 Blowers, 2 positioned at source, 2 positioned approx 20' Back

Additional Atmospheric Controls (dampers open, HEPA units, wet method, containment erected, etc.): Watering down concrete with hose while chipping with hoe ram.

Wind Direction/Speed (outdoor work only): Ø

Temperature: 65° Humidity: 28% Bariometric Pressure: 30.18 Dew Point 32°
(at sampling location)

Length of Shift: 10 hrs Crew Size: 3 Total Length of Activity: 6 hrs

Employee's work location and activities while not wearing sample pump: Shovelling Debris / Lunch

Testing for:	Sample Number	Pump Number	Duration: Pump Start	Pump Stop	Total Time (min)	Avg Cal. Flow Rate (liters)	Total Volume (LPM)	Calibration Flow Rate Before	Calibration Flow Rate After
Silica	97-FMC -020	15a	6:30 AM	12:30 PM	360	1.6845	606.42	1703	1666
Silica	97-FMC -019	15a	1:00 ~~12:30~~ PM	5:00	240	1.6845	404.28	1703	1666
Silica	97-FMC-018	15a			2				

Total Volume (LPM)= Total Time (Min) X Avg. Cal. Flow Rate (Liters)

Sample Coordinator. _____ Print _____ Initial _____ Social Security Number

or/Outdoor Work: indoor

VOLTAge Checked Yes

Rev. 8/29/96

Air Sampling Worksheet

Project: IP JAY Date: 5-16-97

Employee Name: [redacted] Social Security #: [redacted]

Employee Job Classification: 5200 Number of Employees Exposure Monitoring Represents 4

Activity Performed by Employee(s): WASHING Boiler TUBES OUT OF STEAM DRUM ON 10TH FLOOR

Equipment/Tools Used (be specific): AIR DIE GRINDER, BLACK + DECKER FLAPPER, TORCHES WITH ACETYLENE AND OXYGEN AND PROPANE WITH TURKEY BURNER.

Personal Protective Equipment: HARD HAT, EYE PROTECTION, AND STEEL TOE BOOTS

Respiratory Protection Used: 3M 6000 neg PRESSURE AIR PURIFYING HALF FACE RESPIRATOR

Area Characteristics (outdoors, boiler cavity, 2,000 sq. ft. tank, etc.): 10TH FLOOR 30 FT LONG AND 40" DIA.

Ventilation Equipment Used (make/model, flow rate, equipment positioning): ALL [redacted] FAN ACTIVE (AMERICA) REDS-16-97 AND (ODUS (AMERICA) BLOWER 10 [redacted] 18-50 CFM

Additional Atmospheric Controls (dampers open, HEPA units, wet method, containment erected, etc.): All Boiler HATCHES OPEN

Wind Direction/Speed (outdoor work only): N/A

Temperature: 76°F Humidity: 34% Bariometric Pressure: 29.13 IN Dew Point 5 (at sampling location)

Length of Shift: 12 Crew Size: 4 Total Length of Activity: 12

Employee's work location and activities while not wearing sample pump: LUNCH ROOM (TRAILER) FOR BREAK AND LUNCH

Testing for:	Sample Number	Pump Number	Duration: Pump Start	Pump Stop	Total Time (min)	Avg Cal. Flow Rate (liters)	Total Volume (LPM)	Calibration Flow Rate Before	Calibration Flow Rate After
RESP DUST	97-IPJ-013	4A 3387	6:00PM		N/A	N/A	N/A	MAY 6 9	N/A
RESP DUST	97-IPJ-014	4A 3387	6:00PM	6:00AM	713	1.700	1212.1	1.700	1.700

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Total Volume (LPM)= Total Time (Min) X Avg. Cal. Flow Rate (Liters)

Sample Coordinator: _____ Indoor/Outdoor Work: INDOORS

Print Initial Social Security Number

Yankee Rowe Project

Silica by Tools used

12/08/97

(Minutes)

Sample #	Date	Job Title	Location	Job	Length of shift	mg Particulate/ m3	% Quartz	% cristobalite	% tridymite	PEL	Adjusted TWA	Severity
24912	06/04/97	PABA-03	PAB Cubicle Cor.	Knocking down wall blocks	95	0.06	71.00	0.00	0.0	0.14	0.014	0.10
22014	06/24/97	PABA-03	PAB Cubicle Cor.	Block Removal In Corridor	200	2.00	12.00	<0.06	0.0	0.65	0.867	1.07
25306	06/05/97	PABA-03	PAB Cubicle Corr	Removing Cement Blocks	30	8.4	17	0.00	0.00	0.83	0.280	0.53
25307	06/13/97	Ped Remo	ST Tank Area	Break Concrete w/Brokk	210	0.300	28.0	0.00	0.00	0.33	0.105	0.32
26287	06/16/97	Ped Remo	SI Concrete Pedestal	Break Concrete w/Brokk	175	0.043	0.0	0.00	0.00	6.00	0.013	0.00
25298	07/08/97	SIBA-04	SI Building	Needlegun w/HEPA on concrete to remove paint	120.00	0.58	17.00	0.00	0.00	0.53	0.116	0.22
24906	07/15/97	SIBA-04	SI Building	Needlegun w/HEPA on concrete to remove paint	448.00	0.08	<17.00	0.00	0.00	<0.53	<0.057	<0.11
25281	07/02/97	SSS-02	Safety Shutdown Bldg.	Scarifying	60.00	0.75	26.00	0.00	0.00	0.36	0.075	0.21
24909	07/07/97	SSS-02	Safety Shutdown Bldg.	Scarifying & Hammering	214.00	0.16	28.00	0.00	0.00	0.53	0.036	0.11
25336	08/04/97	SSS-02	Safe Shutdown Bldg.	Scarify Floor	390.00	7.30	9.70	0.00	0.00	0.45	4.745	5.55
26125	08/28/97	PABA-06	PAB Sample Room	Scarify floor, walk behind	218.00	0.00	0.00	0.00	0.00	5.00	0.000	0.00
26136	08/28/97	PABA-06	PAB Valve Room	Scarify floor, walk behind	330.00	0.00	0.00	0.00	0.00	5.00	0.000	0.00
25296	06/22/97	IXP-02	IX-Pit	Scarifying	373	0.19	30.0	0.00	0.00	0.31	0.118	0.38
25774	08/04/97	SIBA-04	SI Bldg Diesel Gen. Rm. #1	Floor Scabbler machine	430.00	0.89	4.80	0.00	0.00	1.82	0.638	0.42
26154	08/27/97	PABA-06	PAB Sample Room	Small Floor scabbler on floor	480.00	0.78	21.80	0.00	0.00	0.42	0.632	1.50
26176	08/27/97	PABA-06	PAB Valve Room	Large Floor scabbler on floor	300.00	0.91	19.10	0.00	0.00	0.47	0.455	0.96
25344	07/30/97	SIBA-04	SI Bldg. Diesel Gen. Rm.#2	Floor Scabbler machine	375.00	2.50	10.90	1.40	0.00	0.61	1.575	2.24
26278	08/21/97	IXP-02	IX-Pit Pipe Trench	Scabbling	285.00	0.41	50.00	0.00	0.00	0.19	0.195	1.01
25286	07/07/97	SSS-02	Safety Shutdown Bldg.	Scabbling of SSS Floor	300.00	0.02	100.00	0.00	0.00	0.10	0.010	0.10
22021	03/05/97	WDBA-02	Waste D. Bldg.	Diamond cutting of Pedestals	283	3.00	23.00	0.00	0.0	0.40	1.265	3.16
24302	03/11/97	WDBA-02	WDB Evap 3	Diamond Cutting of Pedestal	120	1.80	12.00	0.00	0.0	0.71	0.320	0.45
24306	03/11/97	WDBA-02	WDB Evap 3	Diamond Cutting of Pedestal	160	1.40	15.00	0.00	0.0	0.59	0.373	0.63
24533	03/12/97	WDBA-02	WDB Evap 3	Diamond cutting of Pedestals	135	<0.043	<100	0.00	0.0	<0.10	<0.010	<0.10
24901	04/17/97	WRT-01	ADD Tank Moat	Diamond Cutting concrete	252	0.23	20	0.00	0.00	0.45	0.087	0.21
24313	03/18/97	PABA-03	PAB Cubicle Corridor	Removal of CMR's	44	1.00	13.00	0.00	0.0	0.67	0.073	0.11
24301	03/06/97	IXP-02	IX Pit	Floor bussting w/ pavement buster	210	8.80	5.70	0.00	0.0	1.30	3.080	2.37
24912	06/11/97	PABA-03	Upper PAB	Clean up lead anchor & concrete	270	0.37	23	0.00	0.00	0.40	0.187	0.42
25289	08/24/97		New PCA	Pour Dirt Into LSA Box	380	0.88	13	0.00	0.00	0.67	0.545	0.82
25766	07/16/97	SIBA-04	SI Bldg. Diesel Gen. Rm.	Deconing Concrete Beams (Ceiling)	335.00	0.43	16.00	0.00	0.00	0.56	0.240	0.43
25777	07/17/97	SIBA-04	SI Bldg. Diesel Gen. Rm.	Deconing	188.00	0.16	<20.00	0.00	0.00	<0.45	<0.050	<0.11

Silica by Tools used 12/08/97

Sample	Date	Job Title	Location	Job	Length of shift	mg Particulate m3	% Quartz	% cristobalite	% tridymite	PEL	Adjusted TWA	Severity
26294	05/20/97	XP-02	IX-Pit Pipe Trench	Floor Scabbling w/Hilti Scabbler	500.00	0.44	9.50	0.00	0.00	0.87	0.367	0.42
25763	07/23/97	SIBA-04	SI Bldg. Diesel Gen. Rm.	Scabbling w/Hilti 704	45.00	0.89	15.00	0.00	0.00	0.53	0.067	0.13
25784	07/28/97	SIBA-04	SI Bldg. Diesel Gen. Rm.#3	Scabbling w/Hilti 704	355.00	3.70	14.20	0.00	0.00	0.52	2.189	4.18
26342	07/29/97	SIBA-04	SI Bldg. Diesel Gen. Rm.#2	Scabbling w/Hilti 704	330.00	3.30	11.20	1.10	0.00	0.61	1.816	2.98
26769	07/24/97	SIBA-04	SI Bldg. Diesel Gen. Rm.	Scabbling Concrete	200.00	0.25	11.00	0.00	0.00	0.67	0.063	0.14
26778	07/31/97	SIBA-04	SI Bldg. Diesel Gen. Rm.#2, #3	Scabbling floor and HEPA vacuuming	293.00	1.40	3.00	0.00	0.00	2.00	0.684	0.34
25788	07/24/97	WDBA-02	WDBldg Ash Dewatering Pit	Scabbling wall w/Hilti Meat Tenderizer"	90.00	1.20	11.00	0.00	0.00	0.67	0.180	0.27
25761	07/24/97	WDBA-02	WDBldg Ash Dewatering Pit	Scabbling wall w/Hilti Meat Tenderizer"	115.00	1.00	11.00	0.00	0.00	0.67	0.546	0.62
26231	10/16/97	VCA-03	In VC	Hilti 704 chipping corners of wall w/HEPA above source	76	28	16.5			0.54	3.600	8.48
26278	10/16/97	VCA-03	In VC	Hilti 704 chipping corners of wall w/HEPA above source	90	1.3	24.5			0.38	0.196	0.52
26236	10/16/97	PABA-03	PAB C.Corr Pipe Chase	Hilti/meat tenderizer pipe chase wall	230	0.29	8.8			0.93	0.111	0.12
25346	04/18/97	VCA-03	VC Charging Floor	Scabbling w/Brokk HEPA at source	60.00	1.60	6.60	0.00	0.00	1.18	0.150	0.13
25348	04/19/97	VCA-03	VC - STC	Scabbling w/Brokk of STC Wall	300.00	0.02	100.00	0.00	0.00	0.10	0.010	0.10
26163	08/25/97	VCA-03	STC - Charging Floor	Scabble STC Walls w/Brokk	165.00	0.00	0.00	0.00	0.00	6.00	0.000	0.00
26160	08/25/97	VCA-03	STC - Charging Floor	Scabble STC Walls w/Brokk	150.00	0.00	0.00	0.00	0.00	5.00	0.000	0.00
26169	08/26/97	VCA-03	STC - Charging Floor	Scabble STC Walls w/Brokk	180.00	1.66	30.30	0.00	0.00	0.31	0.427	1.38
25790	08/21/97	VCA-03	STC	Scabble the walls w/Brokk (2 HEPA set-up)	330.00	0.22	16.30	0.00	0.00	0.55	0.121	0.22
21925	02/18/97	IXP-02	IX Pit	Scabbling of IX Pit walls w/Brokk	180.00	0.99	31.00	0.00	0.00	0.30	0.297	0.98
21915	02/18/97	IXP-02	IX Pit	Scabbling of IX Pit walls w/Brokk	160.00	0.38	21.00	0.00	0.00	0.43	0.095	0.22
22008	02/18/97	IXP-02	IX Pit	Scabbling of IX Pit walls w/Brokk	480.00	0.73	27.00	0.00	0.00	0.34	0.584	1.69
22010	02/26/97	IXP-02	IX Pit	Scabbling of IX Pit walls w/Brokk	180.00	0.16	36.00	0.00	0.00	0.26	0.048	0.18
21940	02/25/97	IXP-02	IX Pit	Scabbling of IX Pit walls w/Brokk	240.00	0.38	22.00	0.00	0.00	0.42	0.152	0.36
22023	02/26/97	IXP-02	IX Pit	Scabbling of IX Pit walls w/Brokk	240.00	0.28	15.00	0.00	0.00	0.59	0.112	0.19
21912	02/25/97	IXP-02	IX Pit	Scabbling of IX Pit walls w/Brokk	180.00	0.03	100.00	0.00	0.00	0.10	0.004	0.09
21931	02/27/97	IXP-02	IX Pit	Scabbling of IX Pit walls w/Brokk	120.00	0.34	14.00	0.00	0.00	0.65	0.064	0.11
22004	02/27/97	IXP-02	IX Pit	Scabbling of IX Pit walls w/Brokk	210.00	0.40	35.00	0.00	0.00	0.27	0.140	0.52
21930	02/27/97	IXP-02	IX Pit	Scabbling of IX Pit walls w/Brokk	150.00	0.31	25.00	0.00	0.00	0.37	0.078	0.21
22006	02/27/97	IXP-02	IX Pit	Scabbling of IX Pit walls w/Brokk	180.00	0.52	44.00	0.00	0.00	0.22	0.166	0.72
24306	03/10/97	IXP-02	IX Pit	Scabbling of IX Pit walls w/Brokk	390.00	1.30	12.00	0.00	0.00	0.71	0.845	1.18
21934	03/15/97	IXP-02	IX Pit	Scabbling floors and walls w/brokk	245.00	2.60	9.30	0.00	0.00	0.88	1.062	1.20
25339	04/20/97	VCA-03	STC-Charging floor	Scabbling the STC wall w/brokk (1 HEPA at source)	375.00	0.41	46.00	0.00	0.00	0.21	0.258	1.23
26217	10/18/97	VCA-03	Charging Floor	Scabble STC Walls w/Brokk & Vacumax	430	0.28	10.3			0.47	0.201	0.43
26211	10/16/97	VCA-03	In VC	Scabble STC Walls w/hand held scabbler	90	0.66	20.2			0.46	0.098	0.22

Sample #	Date	Job Title	Location	Job	Length of shift	mg Particulate/m3	% Quartz	% cristobalite	% tridymite	PEL	Adjusted TWA	Severity
24314	03/18/97	WDBA-02	Waste Disposal Bldg	LTC shot blasting of walls	120	0.25	20.00	0.00	0.0	0.45	0.050	0.11
24309	03/19/97	WDBA-02	Waste Disposal Bldg	LTC shot blasting of walls	260	0.39	17.00	0.00	0.0	0.53	0.169	0.32
24635	03/20/97	WDBA-02	Waste Disposal Bldg	LTC shot blasting of walls	90	0.36	<18.00	<0.10	0.0	2.50	0.054	0.02
22011	03/24/97	WDBA-02	Waste Disposal Bldg	LTC shot blasting of walls	20	1.20	24.00	<0.80	0.0	0.36	0.040	0.11
24803	04/03/97	WDBA-02	Waste Disposal Bldg.	LTC Blasting of walls	140	0.05	<83	0.00	0.00	<0.12	<0.017	<0.10
24804	04/03/97	WDBA-02	Waste Disposal Bldg.	LTC Blasting of walls	83	0.60	<70	0.00	0.00	<0.14	<0.069	<0.50
25279	05/08/97	WDBA-02	Waste Transfer Room	LTC Shot Blasting Floor	276	0.300	7.1	0.00	0.00	1.10	0.136	0.13
25280	05/12/97	WDBA-02	Waste Transfer Room	LTC Shot Blasting Floor	336	0.150	<12.0	0.00	0.00	0.71	<0.084	<0.12
25303	05/13/97	WDBA-02	Waste Transfer Room	LTC Blasting Floor	300	2.100	19.0	0.00	0.00	0.48	1.050	2.21
25301	05/13/97	WDBA-02	Waste Transfer Room	LTC Shot Blasting Floor	260	0.130	17.0	0.00	0.00	0.53	0.056	0.11
25775	06/20/97	PABA-05	Upper PAB pipe chase	LTC the floor	207.00	0.29	47.00	0.00	0.00	0.20	0.100	0.49
25159	06/21/97	PABA-05	Lower PAB pipe chase	LTC floor blasting	66.00	0.37	24.40	0.00	0.00	0.38	0.040	0.11
25351	06/21/97	PABA-05	Upper PAB pipe chase	LTC the floor	210.00	0.26	63.00	0.00	0.00	0.19	0.068	0.53
25152	06/25/97	PABA-05	Lower Pipe Chase	LTC Floor Blasting	190.00	0.00	0.00	0.00	0.00	5.00	0.000	0.00
25154	06/25/97	PABA-05	Upper PAB pipe chase	LTC Floor Blasting	90.00	0.00	0.00	0.00	0.00	5.00	0.000	0.00
25789	06/26/97	PABA-05	PAB Valve Room	LTC Floor Blasting	205.00	0.14	40.00	0.00	0.00	0.24	0.048	0.20
24878	04/01/97	WDBA-02	Scrubbing Cubicle	LTC Blasting-Decon	200	1.20	35	0.00	0.00	0.27	0.400	1.48
24913	04/02/97	WDBA-02	Scrubbing Cubicle	LTC Blasting-Decon	200	56.00	10	0.00	0.00	0.83	18.333	23.20
24881	05/05/97	WDBA-02	Stripper Cubicle	Scabbling the floor	276.00	1.300	12.00	0.00	0.00	0.71	0.565	0.83
24882	05/06/97	WDBA-02	Stripper Cubicle	Scabbling the floor	50.00	0.510	14.00	0.00	0.00	0.63	0.068	0.11
24897	05/06/97	WDBA-02	Stripper Cubicle	Scabbling the floor	166.00	2.400	14.00	0.00	0.00	0.63	0.600	1.06
24884	04/30/97	WDBA-02	Waste Disposal	Scabbling	96.00	2.5	20.00	0.00	0.00	0.48	0.400	0.88
24880	04/30/97	WDBA-02	Waste Disposal	Scabbling	99.00	0.69	<8.6	0.00	0.00	<0.94	<0.114	<0.12
24866	05/01/97	WDBA-02	Waste Gas Compressor Rm.	LTC Blasting	310	0.340	39.0	0.00	0.00	0.24	0.176	0.72
24886	05/05/97	WDBA-02	Waste Gas Compressor Rm.	LTC Blasting	420	0.028	<50.0	0.00	0.00	0.19	<0.020	0.10
25288	06/17/97		Rad Waste Bldg	LTC blasting w/2 blastheads	260	0.18	<12	0.00	0.00	0.71	<0.078	<0.11

Silica by Tools used 12/08/97

Sample #	Date	Job Title	Location	Job	Length of shift	mg Particulate m3	% Quartz	% cristobalite	% tridymite	PEL	Adjusted TWA	Severity
24307	03/12/97	PABA-03	PAB Cubicle Cor.	Hilti Gerring on Pump Bases	120	8.60	10.00	0.00	0.8	0.83	1.720	2.06
24873	05/01/97	WDBA-02	Waste Gas Compressor Rm.	Chipping pump base w/Hilti	430	0.110	13.0	0.00	0.00	0.67	0.079	0.12
24888	05/06/97	WDBA-02	Waste Gas Compressor Rm.	Hilti-ing pump bases	276	VOID		0.00	0.00	5.00	0.000	0.00
24875	04/30/97		VC Broadway	Hilti Drilling Concrete Wall	130	0.56	16	0.00	0.00	0.56	0.121	0.22
25282	06/06/97	WDBA-02	Waste Disposal Hallway	Hilti Lead Anchor in Wall	76	0.310	<25.0	0.00	0.00	0.37	<0.039	<0.10
25280	06/19/97	Chem Lab	Chemistry Lab	Hilti-Chem Lab West Wall	170	0.67	13.0	0.00	0.00	0.67	0.190	0.28
24900	06/20/97	WDBA-02	Waste Disposal Hallway	Hilti Lead Anchor in Wall	190	0.21	42.0	0.00	0.00	0.23	0.067	0.29
28287	06/21/97	WDBA-02	Waste Disposal Bldg.	Hilti Lead Anchor in Wall	200	0.18	38.0	0.00	0.00	0.26	0.060	0.24
25779	07/30/97	VCA-03	VC-STC	Hilti out the Rebar	240.00	0.49	14.40	10.00	0.00	0.36	0.196	0.56
25340	08/04/97	PABA-06	Upper PAB	Hilti Floor around Draw	105.00	0.69	18.00	0.00	0.00	0.56	0.121	0.22

Sample #	Date	Job Title	Location	Job	Length of shift	mg Particulate/ m3	% Quartz	% cristobalite	% tridymite	PEL	Adjusted TWA	Severity
25282	05/19/97	VCA-03	VC STC Spider Basket	Blade Cutting Liner from Spider	151	0.140	<54.0	0.00	0.00	0.00	<0.035	<0.20
25289	05/20/97	VCA-03	VC STC Spider Basket	Blade Cutting Liner from Spider	165	0.44	39.0	0.00	0.00	0.24	0.121	0.50
24898	05/21/97	VCA-03	STC-VCA-03	Blue Blade of STC Liner	170	0.78	36.0	0.00	0.00	0.26	0.221	0.84
25341	06/14/97		RCA - outside WDB	Blue Blade cutting of cinder block wall	230.00	19.00	10.70	0.00	0.00	0.79	7.283	9.25

Date	Location	Activity	Controls	Pel	TWA	Exposure
12/7/97	Mead Paper	Chipping concrete	Water Vacuum 1/2 face air purifying resp.	1.0	**0.306**	31%
12/10/97	BIW	Drilling, chipping of concrete	Water hose running	1.1	**0.024**	2.1%
				Respirable Dust		
5/16/97	IP Jay	cleaning, grinding of boiler tubes	ID fans on (general) Copus blowers(local) 1/2 face resp.	5.0	**0.09**	1.8%
4/4/97	New London State Pier	Cutting, drilling and sanding concrete	Water 1/2 face resp.		**2.7**	
2/28/97	FMC	Hoe ramming concrete floor	4 copus blowers water		**0.069**	
				Total Dust		
1/8/97	Bridgeport	Hoe ramming of concrete	Copus blower		**0.04**	
1/8/97	Bridgeport	Sawcutting concrete	Copus blower 1/2 face respirator		**<0.01**	
3/97-10/97	Yankee Rowe	Multiple activities	Water Hepavacs Ventilation Respirators	See Results		

Rev. 8/29/96

Air Sampling Worksheet

Project: Portland Bridge Date: 9-16-96

Employee Name: Social Security #:

Employee Job Classification: Carpenter Number of Employees Exposure Monitoring Represents: 2

Activity Performed by Employee(s): Grinding concrete walls inside stairwell on South Pier

Equipment/Tools Used (be specific): 5" grinder (Black + Decker) with stone

Personal Protective Equipment: HH, Harness, gloves, hood

Respiratory Protection Used: Full Face AO cannister respirator w/ Hepa cartridges

Area Characteristics (outdoors, boiler cavity, 2,000 sq. ft. tank, etc.): Stairwell is located inside the Bascule pier which is completely open on top and has two doorways. Stairwell itself is enclosed but has a doorway top, bottom and center

Ventilation Equipment Used (make/model, flow rate, equipment positioning): 2 Coppus blower pulling out, one on top, one at bottom with hoses run up near the work.

Additional Atmospheric Controls (dampers open, HEPA units, wet method, containment erected, etc.):

3 doorways all wide open.

Wind Direction/Speed (outdoor work only): outside pier 3 mph from north

Temperature: 63°F Humidity: 68% Barometric Pressure: 30.00 Dew Point 54°F
(at sampling location)

Length of Shift: 10 hrs Crew Size: 10 Total Length of Activity:

Employee's work location and activities while not wearing sample pump: Preparation and set up in South Pier, Patching inside stairwell, cleanup to go home + lunch Duration: ~~176 minutes~~ 184 minutes

Testing for:	Sample Number	Pump Number	Pump Start	Pump Stop	Total Time (min)	Avg Cal. Flow Rate (liters/min)	Total Volume ~~(LPM)~~ Liters	Calibration Flow Rate ml/min Before	After
Silica	96-PRT-10	3392	7:36 Am	9:10 Am	44	1.715	161	1707	~~1724~~ SAR
"	96-PRT-12	3392	9:18 Am	11:08	110	1.715	~~189~~ Note:	Pump was not running.	See field notes
"	96-PRT-13	3392	11:08 Am	1:42 pm	(-½ hr lunch) 124	1.715	213		
"	96-PRT-14	3392	1:42 pm	3:10 pm	88	1.715	151		1724

Total Volume (LPM)= Total Time (Min) X Avg. Cal. Flow Rate (Liters)

Sample Coordinator:
Print Initial Social Security Number Indoor/Outdoor Work: I

Rev. 8/29/96

Air Sampling Worksheet

Project: Portland Bridge Date: 9-12-96

Employee Name: Social Security #:

Employee Job Classification: Carpenter Number of Employees Exposure Monitoring Represents 2

Activity Performed by Employee(s): Chipping, ~~pointing +~~ saw patching, grinding of concrete

Equipment/Tools Used (be specific): 5" Black+Decker Grinder with stone, 4" grinder w/ Diamond blade, TE54 chipping hammer

Personal Protective Equipment: Hearing protection,

Respiratory Protection Used: AO omnistar full face with HEPA cartridges (while grinding + chipping)

Area Characteristics (outdoors, boiler cavity, 2,000 sq. ft. tank, etc.): Inside a stairwell with three open doors

Ventilation Equipment Used (make/model, flow rate, equipment positioning): ~~1~~ 2 Copus blowers drawing air out top, one Copus blower drawing out bottom

Additional Atmospheric Controls (dampers open, HEPA units, wet method, containment erected, etc.): Three open doorways

Wind Direction/Speed (outdoor work only): 0 mph at doorway to stairs w/o blowers on

Temperature: 66°F Humidity: 75% Bariometric Pressure: 30.09 in Dew Point 57°F
(at sampling location)

Length of Shift: 10 hrs Crew Size: 1 Total Length of Activity: 2½ hrs grinding, Rest patching and setup

Employee's work location and activities while not wearing sample pump: South pier, stretches + set up

Duration: 50 minutes

Testing for:	Sample Number	Pump Number	Pump Start	Pump Stop	Total Time (min)	Avg Cal. Flow Rate (liters)	Total Volume (LPM)	Calibration Flow Rate Before	After
Silica	96-PRT-05 96-PRT-06 96-PRT-08	Buck 3392	7:05Am	4:28 pm	05 - 178 min 06 - 162 min 08 - 142 min	1660	-295 -269 -236	1699	~~1598~~ 1622
Silica area sample	96-PRT-07	MSA #18	— See		Next	Page	———	1703	1705

Total Volume (LPM)= Total Time (Min) X Avg. Cal. Flow Rate (Liters)

Sample Coordinator:

Silica by Tools used 12/08/97

Sample #	Date	Job Title	Location	Job	Length of shift	mg Particulate m3	% Quartz	% cristobalite	% tridymite	PEL	Adjusted TWA	Severity
24312	03/04/97	PABA-03	PAB Cubicle Cor.	Knocking down wall blocks	95	0.09	71.00	0.00	0.0	0.14	0.014	0.10
24311	03/05/97	03/06/97	IX Pit	Jackhammering Block Wall	120	0.05	100.00	0.00	0.0	0.10	0.010	0.10
24534	03/17/97	PABA-03	PAB Cubicle Cor.	Block busting w/jackhammer	150	0.69	11.00	0.00	0.0	0.77	0.173	0.22
24917	05/19/97	IXP-02	IX-Pit Pipe Trench	Jackhammering Trench Walls	498	VOID	Cassette	backwards	0.00	5.00	0.000	0.00
25281	06/02/97	VCA-03	VC/STC	Jackhammering STC walls to remove STC liner	75	5.300	13.0	0.00	0.00	0.67	0.663	0.99
24907	06/02/97	VCA-03	VC Charging Floor	Jackhammering STC walls	76	<0.078	0	0.00	0.00	5.00	<0.010	0.00
25355	08/04/97	WDBA-02	W.D.Bldg	Hammer out floor drains	153.00	4.70	14.00	0.00	0.00	0.63	1.199	1.92
24879	04/01/97	IXP-02	IX- Pit	Jackhammering Floor/Overhd	168	3.20	31	0.00	0.00	0.30	0.880	2.90
21816	03/12/97	IXP-02	IX Pit	Jack hammering floor	174	16.00	4.50	0.00	0.0	1.54	5.220	3.39
24532	03/17/97	IXP-02	IX Pit	Jack hammering floor	328	2.40	14.00	0.00	0.0	0.63	1.304	2.09
24537	03/20/97	IXP-02	IX Pit	Jack hammering floor	315	26.00	14.00	<0.20	0.0	0.56	13.650	24.57
24676	03/27/97	IXP-02	IX Pit	Jack hammering floor	230	2.70	29.00	0.00	0.0	0.32	1.036	3.21
24677	03/27/97	IXP-02	IX Pit	Jack hammering floor	240	9.30	37.00	0.00	0.0	0.26	3.720	14.51
25772	07/31/97	WDBA-02	W.D. Building	Jackhammering Floor	227.00	3.60	14.00	0.00	0.00	0.63	1.438	2.30
26284	09/07/97	WDBA-02	Waste Gas Compressor Rm.	Jackhammering Concrete	226	0.120	<23.0	0.00	0.00	0.40	<0.045	0.11
26288	09/07/97	WDBA-02	Stripper Cubicle	Jackhammering Concrete	76	1.000	23.0	0.00	0.00	0.40	0.125	0.31
25782	07/30/97	WDBA-02	W.D. Building Corridor	Hammering Concrete	245.00	2.40	32.70	2.00	0.00	0.28	0.980	3.79
25778	07/31/97	WDBA-02	W.D. Building Corridor	Jackhammering Concrete	180.00	7.20	11.00	0.00	0.00	0.77	1.800	2.34
24698	06/15/97	IXP-02	IX-Pit Pipe Chase	Hammer 9000	485	VOID	Cassette	backwards	0.00	5.00	0.000	0.00
25306	05/19/97	IXP-02	IX-Pit Pipe Trench	Hammer 9000	330	21.000	5.2	0.00	0.00	1.39	11.550	8.32
26157	08/21/97	PABA-05	PAB Sample Room	Floor Drain Removal w/Jackhammer 9000	270.00	1.60	12.60	0.00	0.00	0.68	0.720	1.06
26165	08/28/97	Y-01	SSS exterior	Chipping concrete w/9000	195.00	0.00	0.00	0.00	0.00	5.00	0.000	0.00
24636	03/20/97	PABA-03	PAB Cubicle Corridor	CMU Removals 9000 Hammer	183	2.10	7.60	<0.08	0.0	0.86	0.641	0.74
24303	03/25/97	IXP-02	IX Pit	Hammer Concrete w/9000	170	1.50	16.00	0.16	0.0	0.50	0.425	0.86
26218	10/15/97	PABA-05	PAB Cubicle Corr	Jackhammering w/various tools	133	0.21	20.2			0.45	0.047	0.10
26226	10/15/97	PABA-05	PAB C.Corr Pipe Chase	Jackhammer floor drains w/various tools	178	6.2	20.4			0.45	1.843	3.46
24908	06/04/97	VCA-03	VC Charging Floor	Hammer out STC liner w/3000	315	0.46	12	0.00	0.00	0.71	0.242	0.34
25762	07/18/97	VCA-03	VC-STC	Hammer Seal Ring w/Brokk	75.00	0.37	<21.00	0.00	0.00	<0.43	<0.046	<0.11
25767	07/17/97	VCA-03	VC-STC	Hammer Omega Seal Ring w/ Brokk	120.00	0.45	22.00	0.00	0.00	0.42	0.090	0.22
25773	07/29/97	VCA-03	VC-STC Cavity	Jackhammering w/Brokk	175.00	0.75	21.50	9.00	0.00	0.29	0.219	0.75
25768	07/16/97	VCA-03	VC-STC	Jackhammering Pool Seal Ring	165.00	0.50	28.00	0.00	0.00	0.33	0.138	0.41
26216	11/04/97	VCA-03	Charging Floor Of VC	Operating Brokk while hammering lower cavity walls	120.00	0.39	25.30			0.37	0.078	0.21
26214	11/05/97	VCA-03	Charging Floor	Brokk Hammer LNST Walls	160.00	0.38	25.00			0.37	0.117	0.32
26185	11/05/97	VCA-03	Charging Floor	Operating Brokk while hammering lower STC cavity	260.00	1.20	31.50			0.30	0.520	1.74
21924	03/04/97	IXP-02	IX Pit	Hammering sill	125	0.33	42.00	0.00	0.0	0.23	0.089	0.30
25783	07/16/97	VCA-03	VC-STC	Jackhammer	210.00	0.42	26.00	0.00	0.00	0.36	0.147	0.41
24883	05/06/97	WDBA-02	Stripper Cubicle	Jackhammer Pump Base	170	0.610	27.0	0.00	0.00	0.34	0.145	0.42
26288	09/04/97	WDBA-02	Waste Transfer Room	Jackhammering Pump Bases	95	4.100	11.0	0.00	0.00	0.77	0.849	0.84

THE SCOTT LAWSON GROUP, LTD.
P.O. BOX 3304 CONCORD, NEW HAMPSHIRE 03302
(603) 228-3610

Pittsfield ME 04967

Report Date : 3/11/97
SLGL Job No. : 975203
Date Sampled : 2/28/97
Date Received : 3/06/97
Sampler :
Project : Rockland

SLG Lab No.	Sample Description	Analyte	Analytical Method	Air Volume liters	mg	mg/m3
104524	97-FMC-018, Building #7, Blank	Total Dust as Silica	NIOSH 0500	0.0	<0.02	<0.02mg
104525	97-FMC-019, Building #7, Break from Activity	Total Dust as Silica	NIOSH 0500	404.3	0.03	0.074
104526	97-FMC-020, Building #7, Hoe Ramming Concrete	Total Dust as Silica	NIOSH 0500	606.4	0.04	0.066

$$TWA = \frac{(4 \times 0.001) + (6 \times 0.066)}{10} = 0.061 \text{ mg/m}^3$$

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By

SLGL laboratory certifications apply only to samples analyzed inhouse.
Positive interferences that may have been found in the blank have been accounted for.
< = Less than.
* = Filter overloaded or filter damaged.
** = Sample loss due to fine particulates, results may be greater than actual data indicates.

Reviewed By: _____

Approved By: _____, Laboratory Manager

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(603) 228-3610

Pittsfield ME 04967

Report Date : 4/18/97
SLGL Job No. : 975333
Date Sampled : 4/07/97
Date Received : 4/16/97
Sampler :
Project : New London State Pier, CT

SLG Lab No.	Sample Description	Analyte	Analytical Method	Air Volume liters	mg	mg/m3
105648	NL-4-4-97-2	Silica	NIOSH 0500	852.0	2.3*	2.7*

No analytical field blank was submitted.
SLGL laboratory certifications apply only to samples analyzed inhouse.
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Reviewed By: _____

Approved By: _____
Laboratory Manager

THE SCOTT LAWSON GROUP, LTD.
P.O. BOX 3304 CONCORD, NEW HAMPSHIRE 03302
(603) 228-3610

Pittsfield ME 04967

Report Date : 9/30/96
SLGL Job No. : 965583
Date Sampled : 9/16/96
Date Received : 9/24/96
Sampler
Project : Portland Bridge

SLG Lab No.	Sample Description	Analyte	Analytical Method	Air Volume liters	mg	mg/m3
100302-1	96-PRT-14	Quartz	NIOSH 7500	151.0	0.457	3.027
100302-2	96-PRT-14	Cristobalite	NIOSH 7500	151.0	<0.005	<0.033
100302-3	96-PRT-14	Tridymite	NIOSH 7500	151.0	<0.005	<0.033
100303-1	Blank 9-16-96	Quartz	NIOSH 7500	0.0	<0.005	<0.005mg
100303-2	Blank 9-16-96	Cristobalite	NIOSH 7500	0.0	<0.005	<0.005mg
100303-3	Blank 9-16-96	Tridymite	NIOSH 7500	0.0	<0.005	<0.005mg

The method detection limit for the above analysis is 0.02mg.
SLGL laboratory certifications apply only to samples analyzed inhouse.
Positive interferences that may have been found in the blank have been accounted for.

Reviewed By:

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Approved By:

Manager

THE SCOTT LAWSON GROUP, LTD.
P.O. BOX 3304 CONCORD, NEW HAMPSHIRE 03302
(603) 228-3610

Pittsfield ME 04967

Report Date : 9/30/96
SLGL Job No. : 965583
Date Sampled : 9/12/96
Date Received : 9/24/96
Sampler
Project : Portland Bridge

SLG Lab No.	Sample Description	Analyte	Analytical Method	Air Volume liters	mg	mg/m3
100297-1	96-PRT-08	Quartz	NIOSH 7500	236.0	0.447	1.893
100297-2	96-PRT-08	Cristobalite	NIOSH 7500	236.0	<0.005	<0.021
100297-3	96-PRT-08	Tridymite	NIOSH 7500	236.0	<0.005	<0.021
100299-1	96-PRT-10	Quartz	NIOSH 7500	161.0	0.051	0.319
100299-2	96-PRT-10	Cristobalite	NIOSH 7500	161.0	<0.005	<0.031
100299-3	96-PRT-10	Tridymite	NIOSH 7500	161.0	<0.005	<0.031
100301-1	96-PRT-13	Quartz	NIOSH 7500	213.0	0.440	2.064
100301-2	96-PRT-13	Cristobalite	NIOSH 7500	213.0	<0.005	<0.023
100301-3	96-PRT-13	Tridymite	NIOSH 7500	213.0	<0.005	<0.023

The method detection limit for the above analysis is 0.02mg.
SLGL laboratory certifications apply only to samples analyzed inhouse.
Positive interferences that may have been found in the blank have been accounted for.

Reviewed By: _____

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Approved By: _____, Lab Manager

THE SCOTT LAWSON GROUP, LTD.
P.O. BOX 3304 CONCORD, NEW HAMPSHIRE 03302
(603) 228-3610

SEP 27 1996

Pittsfield ME 04967

Report Date : 9/24/96
SLGL Job No. : 965583
Date Sampled : 9/12/96 & 9/16/96
Date Received : 9/20/96
Sampler :
Project : Portland Bridge

SLG Lab No.	Sample Description	Analyte	Analytical Method	Air Volume liters	mg	mg/m3
100296	96-PRT-07	Total Dust	NIOSH 0500	602.0	0.29	0.48
100297	96-PRT-08	Silica as Total Dust	NIOSH 0500	236.0	6.7*	28*
100298	96-PRT-09	Total Dust	NIOSH 0500	290.0	0.15	0.52
100299	96-PRT-10	Silica as Total Dust	NIOSH 0500	161.0	0.42	2.6
100300	96-PRT-11	Total Dust	NIOSH 0500	363.0	0.26	0.72
100301	96-PRT-13	Silica as Total Dust	NIOSH 0500	213.0	2.3	11
100302	96-PRT-14	Silica as Total Dust	NIOSH 0500	151.0	4.9	32
100303	Blank 9-16-96	Silica as Total Dust	NIOSH 0500	0.0	<0.02	<0.02mg

The method detection limit for the above analysis is 0.02mg.
SLGL laboratory certifications apply only to samples analyzed inhouse.
Positive interferences that may have been found in the blank have been accounted for.

Reviewed By: _____

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Approved By: _____, Lab Manager

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(603) 228-3610

Pittsfield ME 04967

Report Date : 1/17/97
SLGL Job No. : 975032
Date Sampled : 1/08/97
Date Received : 1/13/97
Sampler
Project : East Washington,
Bridgeport, CT

SLG Lab No.	Sample Description	Analyte	Analytical Method	Air Volume liters	mg	mg/m3
103115	97-Bri-003	Total Dust as Silica	NIOSH 0500	459.0	0.02	0.04
103116	97-Bri-004	Total Dust as Silica	NIOSH 0500	204.0	<0.02	<0.1

97-Bri-003 TWA = 0.04 mg/m³

97-Bri-004 TWA = < 0.1 mg/m³ (ROL)

No analytical field blank was submitted.
SLGL laboratory certifications apply only to samples analyzed inhouse.
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Reviewed By: _____

Approved By: _____
Laboratory Manager

THE SCOTT LANSON GROUP, LTD
P.O. BOX 3304 CONCORD, NEW HAMPSHIRE 03302
(603) 228-3610

Report Date : 6/21/97
SLGL Job No. : 975441
Date Sampled : 5/16/97
Date Received : 5/19/97
Sampler :
Project : IP Jay

Pittsfield NH 04967

SLG Lab No.	Sample Description	Analyte	Analytical Method	Air Volume liters	mg	mg/m3
106933	97-IPJ-013	Respirable Dust	NIOSH 0600	0.0	<0.02	<0.02mg
106934	97-IPJ-014	Respirable Dust	NIOSH 0600	1212.1	0.11	0.09

TWA = 0.05 mg/m3

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Reviewed By: _____

Approved _____ Laboratory Manager

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Special Training or License Needed?	YES	NO
Do you need required permits?		✓
Dig Safe?		✓
Confined Space Permit?		✓
Burning Permit?		✓
Fire Watch?		✓
Scaffold Permit?		✓
Flammable Liquids?		✓
Qualified Equipment Operators?		✓
Electrical/Mechanical Lockouts?		✓
M.S.D.S. Sheets Needed*?	✓	
Acrylic latex, fiberglass white cement, Portland cement		

*Attach M.S.D.S. for: _____

Ground Assurance Program Color Indentified:

____	White (January - March)	____	Green (April - June)
____	Red (July - September)	X	Orange (October - December)

Safety Equipment Needed:

X	Hard Hat	✓	Safety Glasses
X	Steel Toe Boots	✓	Tyvek Suit
X	Gloves (Type Leather)	____	Face Shields
____	Goggles	____	GFCI Receptacle
____	Fire Extinguisher	____	Fire Blankets
____	Rubber Boots	____	Body Harness/Lanyards
____	Rubber Gloves	____	Life Vest
____	Fire/Safety Vest	____	Ring Buoy
____	Ice Vest	✓	Hearing Protection (pouch)
X	Respirator Full Face	✓	Respirator Filter Type HEPA
____	Air Horn	____	Barricade Tape
____	Carabiner	____	Fall Blocks
____	Knee Pads	____	Signs
____	Tie Off Straps	____	Rain Suit
____	_____	____	_____
____	_____	____	_____
____	_____	____	_____
____	_____	____	_____
____	_____	____	_____
____	_____	____	_____

Note: When developing hazard solutions please remember:
1. Be creative - Eliminate hazardous conditions FIRST.
2. Provide personal protective equipment SECOND.

Page may be illegible – best available copy.

Hazard - OSHA FOCUS - Fall Prevention/Protection Methods: Fall hazard at top of stairs possible fall hazard inside stairs. Expect no other fall hazards [illegible] ?)

Solution: Deck over top level of stairs. Tie off to a [illegible] inside stairwell if necessary.

Hazard - OSHA FOCUS - Electrical Shock: Using grinders - [illegible] guns & extension cords. Also temporary lighting.

Solution: Check all cords before use each day. Power coming from Blue Box w/ GFCI

Hazard - OSHA FOCUS - Caught in, between or struck by objects: No hazard

Solution:

Hazard - OSHA FOCUS - Falling Objects/Work Overhead: Working at different levels of Service building at same time

Solution: Deck over top level of stairs, Cover at [illegible] [illegible] [illegible], where people [illegible] [illegible]. Put up signs as necessary.

Hazard - CIANBRO FOCUS - Access to and from Work Area: Access [illegible] South Approach to Conexes, then walk down stairs to service building

Solution: Make sure gate for south Approach is open. 5-10 mph maximum - 3 large speed Bumps over expansion joints.

Hazard: Concrete Dust containing Silica

Solution: ① Full Face respirators ② Two Copus blowers pulling air out through the windows from as close to grinders as possible ③ Full Tyvek suits ④ Good Hygiene - hot and cold water available in conex ⑤ Vacuum up dust on floors ⑥ towelettes available

Hazard: Work after Dark - Lighting

Solution: ① General lighting on Pier and access is good ② 6 Case lights needed for use inside Service building to move around as needed.

Hazard: Noise - Grinders and chipping hammers running in enclosed space

Solution: ① Will check noise levels with sound meter ② Double hearing protection will be used (ear plugs and ear muffs).

Hazard: Slip, Trip, Fall — cords in way, small area

Solution: Run cords together and out of the travel path as much as possible. Roll up cords as soon as no longer needed.

Hazard: Possible CO fumes from salamander heaters

Solution: Copus blowers for Ventilation, Continuously monitor area for CO. If get high levels >25 ppm will shut heaters down. If levels climb to ≥35 ppm will evacuate area until levels drop below 25 ppm

Hazard:

Solution:

Hazard:

Solution:

Hazard:

Solution:

Hazard:

Solution:

Hazard:

Solution:

SAFETY PLANNING CHECKLIST

The ELIMINATION of hazardous conditions should be the NUMBER ONE PRIORITY work activity. Personal protective equipment should be viewed as a last resort. Eliminating hazards not only creates a safer work environment for our employees, it also results in less wasted motion/time and an increase in productivity.

1. Emergency Planning
   - A. Injury
   - B. Fire
   - C. Security
   - D. Labor Relations
2. Hazardous Mat/Waste
   - A. Contingency Plan
   - B. Storage
   - C. Labeling
   - D. Training
   - E. MSDS Index/Inventory
3. Orientation
   - A. New Employee
   - B. Visitor
   - C. Subcontractor
4. Environmental Testing
   - A. Noise Monitoring
   - B. Air Sampling
   - C. Paint, Soil, Water Sampling
5. Respiratory Protection
   - A. Supplies
   - B. Medical Approvals, PFT'S, Fit Testing
6. Hearing Protection
7. Lead/PCB'S
   - A. Blood Lead Testing
   - B. Refer To And Follow Cianbro Lead Bulletin
8. Silica
   - A. Water Available
   - B. Fans
9. Asbestos (Subcontractor Abatement Only)
10. Fly Ash
11. Gases (Oxygen Deficiency, Nitrogen, Carbon Monoxide, H2S, SO2 Chlorine, Explosive Gases
12. Fall Protection
    - A. Scaffolding
    - B. Access
    - C. Ladders
    - D. Barricading of Floor and Wall Openings
    - E. Installation of Fall Blocks, Ratlines, and and Handrails
    - F. Fall Prevention Plan (Copy Safety Dept.)
13. Equipment
    - A. Machinery/Tools
    - B. Manlifts (Trained Operators, Daily Equipment Checks)
    - C. Excavation & Trucking (Competent Person)
    - D. Crane Lift/List Chart
    - E. Proper Barricading
14. Electrical
    - A. Assured Grounding
    - B. GFCI Protection
    - C. Power Lines
    - D. Labeled Breakers
15. Housekeeping
    - A. Trash Removal/Disposal
16. Confined Entry
    - A. Documented Monitoring
    - B. Trained Hole Watch
17. Lockout Procedure
18. Sand Blasting/Painting
19. Rigging Inspection
    - A. Competent Person
    - B. Nylon/Steel Slings
    - C. Chain Falls/Come Alongs
    - D. Speciality Equipment/Devices
20. Welding/Burning
    - A. Fire Permits
    - B. Trained Fire Watch
    - C. Fire Extinguisher
    - D. Fire Blankets/Screens
    - E. Personal Protective Clothing
21. Eye Protection
22. Hand/Finger/Limb Protection
23. Cold/Heat Protection
24. Chain Saw Protection
25. Compressed Air
    - A. Equipment/Tools
    - B. Air Lines/Whip Checks/Check Valves
26. Demolition
27. Diving
    - A. Appropriate People Notified
    - B. Check List Complete
28. Employee Facilities
    - A. Drinking Water
    - B. Toilet/Wash Station
    - C. Eating Area
    - D. Smoking Area
29. Stretching Program
30. Safety Meeting/Training
31. Subcontractor Considerations

tool tracking

CAL-OSHA
recd
1-5-98

Pittsfield, Maine
Dec. 22, 1997

to:
re: Dewalt/Black & Decker 9" Sander/Grinder Model 4075

Bob;

In September of 1996, I had a conversation with a representative of the Black & Decker Co. I was told at that time, that Black & Decker did not manufacture any kind of Hepa/Dust collection system for their sander/grinders, including the model we use (4075), but that they were 'working on it'.

We were, and still are, buying our Black & Decker and Dewalt tools from NH Bragg.

If and when anything becomes available for dust collection when using these tools, we definitely want to know!

Thanks for your interest.

Training Attendance Sheet

Date(s): 1/20/97 Subject: Silica

Instructor: ______ ______ Total Course Length: *1 hr.

Project/Location: Dover Bridge/IGP Hours Trained: 1

Description of Training: Explained Silica, Health Hazard, How Silica is involved in our work duties, How to minimize the dust use of administrative controls, air monitoring and why it must be done, proper selection of PPE and respirators clean up, decon.

Name *(Please print)*	Signature	Social Security #	Job Title *(and Co. name if not Cianbro)*

Please forward a copy of this Training Attendance Sheet to Corporate Safety/HR for record retention.
Also, please attach a copy of the lesson plan if not previously forwarded to Corporate Safety/HR.

DOVER BRIDGE PROJECT
RESPIRABLE SILICA DUST
SAMPLING RESULTS

Sample Date	Sample Location	Work Activity	Protection Controls	Calculated PEL	Calculated TWA
12/11/97	West end of old bridge Span #1 Cassette worn by l (laborer) on deck of old bridge	Employee was burning rebar with a torch as the deck was being hammered with a hoe ram (A fall protection system was also in place)	ENG: The use of the hoe ram for demolition limits exposure to only the equip. operator and rebar cutter & the operator stays in an enclosed cab ADMIN: Restricted access to their work area PPE: Half face air purifying respirator with a dust filter.	0.82 mg/m^3 The respirator Derek was wearing gives him a PEL multiplication factor of 10 (8.2 mg/m^3)	1.09 mg/m^3 This TWA was based on a 440 min. sampling time
12/12/97	West end of old bridge Span #1&2 Cassette worn by (excavator operator)	Operator was hammering bridge deck with a hoe ram and loading dump trucks with demolition debris	ENG: Operator is in an enclosed cab & because of the method used for demolition, he is distanced from the dust ADMIN: Break trailer strategically located at the other end of the bridge PPE: Dust mask	0.40 mg/m^3 A dust mask can't be properly fit tested so there is no protection factor associated with its use	0.13 mg/m^3 This TWA was based on a 403 min. sampling time
12/17/97	Cassette was attached to a fence at the southeast corner of the counterweight approx. 40 ft. from where the hammering took place	The excavator operator was hammering the concrete counterweight above the lift span deck of the old bridge	ENG: A wet down system was designed for this operation. It consisted of a submersible pump with fire hose running up the side of the counterweight and into a 1" PVC pipe with holes drilled at 1' lengths across the top of the counterweight ADMIN: Restricted access to their work area PPE: None	0.33 mg/m^3 No workers were within 50' of the hammering operation except for the operator who was in an enclosed cab	0.15 mg/m^3 This TWA was based on a 428 min. sampling time

8/29/96

Air Sampling Worksheet

Project: Bridgeport, Ct. Date: 1-8-97

Employee Name. Socia

Employee Job Classification: Carpenter Number of Employees Exposure Monitoring Represents 2

Activity Performed by Employee(s): Saw cutting concrete in basular pit on the wall

Equipment/Tools Used (be specific): Cut off Saw

Personal Protective Equipment: face shield, harness, glasses, Hard hat

Respiratory Protection Used: ½ face Wilson w/ Hepa filter

Area Characteristics (outdoors, boiler cavity, 2,000 sq. ft. tank, etc.): out door

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Ventilation Equipment Used (make/model, flow rate, equipment positioning): Copus fan

Additional Atmospheric Controls (dampers open, HEPA units, wet method, containment erected, etc.):

None

Wind Direction/Speed (outdoor work only): SW Cold

Temperature: 20° Humidity: — Bariometric Pressure: — Dew Point —
(at sampling location)

Length of Shift: 7 to 3:30 Crew Size: 16 Total Length of Activity: 2 hrs

Employee's work location and activities while not wearing sample pump: Building forms

Duration:

Testing for:	Sample Number	Pump Number	Pump Start	Pump Stop	Total Time (min)	Avg Cal. Flow Rate (liters)	Total Volume (LPM)	Calibration Flow Rate Before	Calibration Flow Rate After
Silica	97-Bri-004	1	12:30	2:30	120	1.7	204	1.7	1.6

Total Volume (LPM)= Total Time (Min) X Avg. Cal. Flow Rate (Liters)

Sample Coordinator _____ _____ _____ or/Outdoor Work: _____
Print Initial Social Security Number

U. S. DEPARTMENT OF LABOR

OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION

In the Matter of:

OSHA No.(s): 300444635
Serious Citation No. 1

INFORMAL SETTLEMENT AGREEMENT

The undersigned Employer and the undersigned Occupational Safety and Health Administration (OSHA), in settlement of the above citation(s) and penalties which were issued on 12/12/97, hereby agree as follows:

1. The Employer agrees to correct the violations as cited in the above citations or as amended below.

2. The Employer agrees to pay the proposed penalties, if any, as issued with the above-referenced citation(s), or, if amended by this agreement, as amended below. It is further agreed that payment of the amended penalty will be made within 15 days of this agreement. Default will cause penalty modifications to be considered null and void, and the penalty due will revert to the original amount of $1,875.00, along with any accrued interest, delinquent and administrative fees.

3. The Employer and OSHA agree that the following citations and penalties (if any) are not being amended by this agreement:

not applicable

4. OSHA agrees that the following citations and penalties are being amended as shown:

on the attached sheets

Citation and Notification of Penalty

Company Name:
Inspection Site: Dover, NH 03820

The alleged violations below have been grouped because they involve similar or related hazards that may increase the potential for illness.

Citation 1 Item 1a Type of Violation: Serious

29 CFR 1926.55(a): Employee(s) were exposed to material(s) at concentrations above those specified in the "Threshold Limit Values of Airborne Contaminants for 1970" of the American Conference of Governmental Industrial Hygienists:

a. Job site - On 10/16/97, an employee ( )perating a hand grinder on concrete was exposed to respirable silica (quartz) at an 8-hour time weighted average (TWA) of 2.61 mg/m^3; this exposure exceeded the derived permissible exposure limit (PEL) of 0.721 mg/m^3 for this hazardous material. The exposure level was obtained from three samples collected over a 191 minute sampling period while grinding was being performed. Zero exposure was assumed for the 289 minutes not sampled.

b. Job site - On 10/16/97, an employee (Mason) operating a hand grinder on concrete was exposed to respirable silica (quartz) at an 8-hour time weighted average (TWA) of 1.58 mg/m^3; this exposure exceeded the derived permissible exposure limit (PEL) of 0.821 mg/m^3 for this hazardous material. The exposure level was obtained from three samples collected over a 197 minute sampling period while grinding was being performed. Zero exposure was assumed for the 283 minutes not sampled.

The OSHA PEL for silica (crystalline quartz) was established to prevent respiratory diseases such as silicosis and cancer.

Date By Which Violation Must be Abated: ~~02/13/98~~ 8/3/98
Proposed Penalty: $ ~~1875.00~~
$600.00

Citation and Notification of Penalty

Company Name:
Inspection Site: , Dover, NH 03820

Citation 1 Item 1b Type of Violation: ~~Serious~~ OTHER

29 CFR 1926.55(b): Feasible administrative or engineering controls were not implemented to reduce employee exposure(s):

a. Job site - On 10/16/97, employees operating hand grinders were exposed to respirable silica as described in citation 1, item 1a.

ABATEMENT NOTE: Feasible means of control may include, but are not limited to:
1. Use of tools equipped with local exhaust ventilation to capture the dust at the point of origin.
2. Use of administrative controls to limit the time of exposure.

Abatement Schedule

Step 1 ~~1/13/98~~ 2/27/98

A written detailed plan of abatement shall be submitted to the Area Director outlining a schedule for the implementation of engineering and/or administrative measures to control employee exposures to hazardous substances as referenced in this citation. This plan shall include, at a minimum, target dates for the following actions which must be consistent with the abatement dates required by this citation:

(1) Evaluation of engineering/administrative control options;

(2) Selection of optimum control methods and completion of design;

(3) Procurement, installation and operation of selected control measures;

(4) Testing and acceptance or modification/redesign of controls.

All proposed control measures shall be approved for each particular use by a competent industrial hygienist or other technically qualified person.

Step 2 ~~2/13/98~~ 8/3/98

Abatement shall have been completed by the implementation of feasible engineering and /or administrative controls upon verification of their effectiveness in achieving compliance.

Citation and Notification of Penalty

Company Name:
Inspection Site: Dover, NH 03820

Date By Which Violation Must be Abated: ~~02/13/98~~ 8/3/98

Area Director

---

5. The Employer, by signing this informal settlement agreement, hereby waives its rights to contest the above citation(s) and penalties, as amended in paragraph four of this agreement.

6. Each party hereby agrees to bear its own fees and other expenses incurred by such parties in connection with any steps of this proceeding.

7. The Employer agrees to immediately post a copy of this Settlement Agreement in a prominent place at or near the location of the violation(s) referred to in paragraphs three and four above. This Settlement Agreement must remain posted until the violations cited have been corrected, or for three working days (excluding weekends and Federal Holidays), whichever is longer.

8. The Employer agrees to continue to comply with the applicable provisions of the Occupational Safety and Health Act of 1970, and the applicable safety and health standard promulgated pursuant to the Act.

9. The employer agrees to offer a chest x-ray to the two employees who were air sampled for silica by OSHA on October 16, 1997. Additionally, the employer will notify OSHA by July 1, 1998, of the implementation of the company's final silica medical surveillance program. The employer agrees to consult the medical protocol recommendations for exposure to crystalline silica outlined on pages C-1 and C-2 attached to this settlement agreement.

10. The employer agrees to conduct air sampling surveys to verify the effectiveness of any engineering an/or administrative controls used to reduce worker exposures to below the silica PEL (permissible exposure limit). A minimum of at least two surveys taken at least seven days apart will be performed. These surveys will be completed by August 3,1998, with results reported to OSHA upon receipt.

For/

For Occupational Safety and Health Administration

1-8-98
Date Signed

1-8-98
Date Signed

NOTICE TO EMPLOYEES

The law gives you or your representative the opportunity to object to any abatement date set for a violation if you believe the date to be unreasonable. Any contest to the abatement dates of the citations amended in paragraph four of this Settlement Agreement must be mailed to the U. S. Department of Labor - OSHA, Concord Area Office, 279 Pleasant Street, Suite 201, Concord, New Hampshire 03301, within 15 working days (excluding weekends and Federal Holidays) of the receipt by the Employer of this Settlement Agreement. You or your representative also have the right to object to any of the abatement dates set for violations referred to in paragraph three provided that the objection is mailed to the office shown above within the 15-working-day period established by the original citation.

Appendix C

Medical protocol recommendations for exposure to crystalline silica: [28-48]

A. MEDICAL EXAMINATIONS

The following are the recommended medical procedures for individuals chronically exposed to crystalline silica or for individuals who have received one or more severe acute exposures to crystalline silica.

1. A baseline examination which includes a medical and occupational history to elicit data on signs and symptoms of respiratory disease prior to exposure to crystalline silica. The medical examination emphasizing the respiratory system, should be repeated every five (5) years if under 20 years of exposure and every two (2) years if over 20 years of exposure. The medical examination should be repeated more frequently if respiratory symptoms develop or upon the recommendation of the examining physician.

2. A baseline chest x-ray should be obtained prior to employment with a follow-up every 5 years if under 20 years of exposure and every 2 years if over 20 years of exposure. A chest x-ray may be required more frequently if determined by the examining physician.

3. Pulmonary Function Tests (PFT): Should include FEV_1 (forced expiratory volume in 1 second), FVC (forced vital capacity) and DLCO (diffusion lung capacity). PFTs should be obtained for a baseline examination with PFTs repeated every 5 years if under 20 years of exposure and every 2 years if over 20 years of exposure. PFTs may be required more frequently is respirable symptoms develop or if recommended by the examining physician.

4. A chest x-ray should be obtained on employment termination.

B. MEDICAL MANAGEMENT

The chest x-ray should be a chest roentgenogram (posteroanterior 14" x 17" or 14" x 14") classified according to the 1970 ILO International Classification of radiographs of Pneumoconiosis by a certified class "B" reader. The medical follow-up should include the following procedures:

1. With a positive chest x-ray (1/0 or greater) the worker should be placed in mandatory respiratory protection, or if

already wearing a respirator, the program should be reevaluated to assure proper fit and that the elements of 29 CFR 1910.134 are being met.

2. The worker should be referred to a physician specializing in lung diseases for a medical evaluation and medical monitoring as warranted by the examining physician. A written opinion from the examining physician as to whether the employee has any detected condition that would place the worker at an increased risk should be provided to the employer and employee, while specific medical findings remain confidential.

3. All medical test results should be discussed with the worker by the physician.

4. In accordance with 29 CFR 1910.20, medical records shall be maintained for at least 30 years following the employee's termination of employment, unless the employee is employed for less than one year and the records are provided to the employee upon termination.

U.S. Department of Labor
Occupational Safety and Health Administration
279 Pleasant Street
Suite 201
Concord, NH 03301
Phone: (603)225-1629 FAX: (603)225-1580

Citation and Notification of Penalty

To:

and its successors

Pittsfield, ME 04967

Inspection Site:

Dover, NH 03820

Inspection Number: 300444635
Inspection Date(s): 10/14/97 - 12/03/97
Issuance Date: 12/12/97

The violation(s) described in this Citation and Notification of Penalty is (are) alleged to have occurred on or about the day(s) the inspection was made unless otherwise indicated within the description given below.

This Citation and Notification of Penalty (this Citation) describes violations of the Occupational Safety and Health Act of 1970. The penalty(ies) listed herein is (are) based on these violations. You must abate the violations referred to in this Citation by the dates listed and pay the penalties proposed, unless within 15 working days (excluding weekends and Federal holidays) from your receipt of this Citation and Notification of Penalty you mail a notice of contest to the U.S. Department of Labor Area Office at the address shown above. Please refer to the enclosed booklet (OSHA 3000) which outlines your rights and responsibilities and which should be read in conjunction with this form. Issuance of this Citation does not constitute a finding that a violation of the Act has occurred unless there is a failure to contest as provided for in the Act or, if contested, unless this Citation is affirmed by the Review Commission or a court.

Posting - The law requires that a copy of this Citation and Notification of Penalty be posted immediately in a prominent place at or near the location of the violation(s) cited herein, or, if it is not practicable because of the nature of the employer's operations, where it will be readily observable by all affected employees. This Citation must remain posted until the violation(s) cited herein has (have) been abated, or for 3 working days (excluding weekends and Federal holidays), whichever is longer. **The penalty dollar amounts need not be posted and may be marked out or covered up prior to posting.**

Informal Conference - An informal conference is not required. However, if you wish to have such a conference you may request one with the Area Director during the 15 working day contest period. During such an informal conference you may present any evidence or views which you believe would support an adjustment to the citation(s) and/or penalty(ies).

If you are considering a request for an informal conference to discuss any issues related to this Citation and Notification of Penalty, you must take care to schedule it early enough to allow time to contest after the informal

Citation and Notification of Penalty

Company Name:
Inspection Site: Dover, NH 03820

The alleged violations below have been grouped because they involve similar or related hazards that may increase the potential for illness.

Citation 1 Item 1a Type of Violation: Serious

29 CFR 1926.55(a): Employee(s) were exposed to material(s) at concentrations above those specified in the "Threshold Limit Values of Airborne Contaminants for 1970" of the American Conference of Governmental Industrial Hygienists:

a. Job site - On 10/16/97, an employee (Tradesman) operating a hand grinder on concrete was exposed to respirable silica (quartz) at an 8-hour time weighted average (TWA) of 2.61 mg/m^3; this exposure exceeded the derived permissible exposure limit (PEL) of 0.721 mg/m^3 for this hazardous material. The exposure level was obtained from three samples collected over a 191 minute sampling period while grinding was being performed. Zero exposure was assumed for the 289 minutes not sampled.

b. Job site - On 10/16/97, an employee (Mason) operating a hand grinder on concrete was exposed to respirable silica (quartz) at an 8-hour time weighted average (TWA) of 1.58 mg/m^3; this exposure exceeded the derived permissible exposure limit (PEL) of 0.821 mg/m^3 for this hazardous material. The exposure level was obtained from three samples collected over a 197 minute sampling period while grinding was being performed. Zero exposure was assumed for the 283 minutes not sampled.

The OSHA PEL for silica (crystalline quartz) was established to prevent respiratory diseases such as silicosis and cancer.

Date By Which Violation Must be Abated:	02/13/98
Proposed Penalty:	$ 1875.00

Citation and Notification of Penalty

Company Name:
Inspection Site: Dover, NH 03820

Citation 1 Item 1b Type of Violation: Serious

29 CFR 1926.55(b): Feasible administrative or engineering controls were not implemented to reduce employee exposure(s):

a. Job site - On 10/16/97, employees operating hand grinders were exposed to respirable silica as described in citation 1, item 1a.

ABATEMENT NOTE: Feasible means of control may include, but are not limited to:
1. Use of tools equipped with local exhaust ventilation to capture the dust at the point of origin.
2. Use of administrative controls to limit the time of exposure.

Abatement Schedule

Step 1 - 1/13/98

A written detailed plan of abatement shall be submitted to the Area Director outlining a schedule for the implementation of engineering and/or administrative measures to control employee exposures to hazardous substances as referenced in this citation. This plan shall include, at a minimum, target dates for the following actions which must be consistent with the abatement dates required by this citation:

(1) Evaluation of engineering/administrative control options;

(2) Selection of optimum control methods and completion of design;

(3) Procurement, installation and operation of selected control measures;

(4) Testing and acceptance or modification/redesign of controls.

All proposed control measures shall be approved for each particular use by a competent industrial hygienist or other technically qualified person.

Step 2 - 2/13/98

Abatement shall have been completed by the implementation of feasible engineering and /or administrative controls upon verification of their effectiveness in achieving compliance.

Citation and Notification of Penalty

Company Name:
Inspection Site: , Dover, NH 03820

Date By Which Violation Must be Abated: 02/13/98

Area Director

U.S. Department of Labor
Occupational Safety and Health Administration
279 Pleasant Street
Suite 201
Concord, NH 03301
Phone: (603)225-1629 FAX: (603)225-1580

INVOICE/
DEBT COLLECTION NOTICE

Company Name:
Inspection Site: Dover, NH 03820
Issuance Date: 12/12/97

Summary of Penalties for Inspection Number 300444635

Citation 1, Serious	= $	**1875.00**
TOTAL PROPOSED PENALTIES	= $	**1875.00**

To avoid additional charges, please remit payment promptly to this Area Office for the total amount of the uncontested penalties summarized above. Make your check or money order payable to: "DOL-OSHA." Please indicate OSHA's Inspection Number (indicated above) on the remittance.

OSHA does not agree to any restrictions or conditions or endorsements put on any check or money order for less than full amount due, and will cash the check or money order as if these restrictions, conditions, or endorsements do not exist.

Pursuant to the Debt Collection Act of 1982 (Public Law 97-365) and regulations of the U.S. Department of Labor (29 CFR Part 20), the Occupational Safety and Health Administration is required to assess interest, delinquent charges, and administrative costs for the collection of delinquent penalty debts for violations of the Occupational Safety and Health Act.

Interest. Interest charges will be assessed at an annual rate determined by the Secretary of the Treasury on all penalty debt amounts not paid within one month (30 calendar days) of the date on which the debt amount becomes due and payable (penalty due date). The current interest rate is 3%. Interest will accrue from the date on which the penalty amounts (as proposed or adjusted) become a final order of the Occupational Safety and Health Review Commission (that is, 15 working days from your receipt of the Citation and Notification of Penalty), unless you file a notice of contest. Interest charges will be waived if the full amount owed is paid within 30 calendar days of the final order.

Delinquent Charges. A debt is considered delinquent if it has not been paid within one month (30 calendar days) of the penalty due date or if a satisfactory payment arrangement has not been made. If the debt remains delinquent for more than 90 calendar days, a delinquent charge of six percent (6%) per annum will be assessed accruing from the date that the debt became delinquent.

Administrative Costs. Agencies of the Department of Labor are required to assess additional charges for the recovery of delinquent debts. These additional charges are administrative costs incurred by the Agency in its attempt to collect an unpaid debt. Administrative costs will be assessed for demand letters sent in an attempt to collect the unpaid debt.

12/12/97

Area Director

Date

Coverage Information/Additional Comments

HEALTH NARRATIVE

Inspection Number	300444635

COVERAGE INFORMATION: Headquarters in Maine

NATURE AND SCOPE: Mark all that apply and explain

- [X] Complaint Items
- [ ] Referral Items
- [ ] Accident Investigation Summary & Findings
- [ ] LEP
- [ ] Planned Inspection

NATURE AND SCOPE -- UNUSUAL CIRCUMSTANCES (Mark X and explain all that apply:)

- [X] None
- [ ] Denial of entry
- [ ] Delays in conducting the inspection
- [ ] Strikes
- [ ] Jurisdictional Issues
- [ ] Trade Secrets
- [ ] Other

Comments:

OPENING CONFERENCE NOTES:

RECORDKEEPING
(Copy of OSHA 200's for General Industry must be in casefile)

Records (Mark "X" as appropriate)

- [ ] OSHA 100
- [ ] OSHA 101
- [ ] OSHA 102
- [X] OSHA 200

Supplementary Health

- [ ] Yes [ ] No

Specify:

Poster

[X] Yes [ ] No

Location of Poster: Employee bulletin board outside of trailer on site.

Additional Comments:

WALKAROUND OBSERVATIONS/UNUSUAL OCCURRENCES:

OSHA EXPOSURE MONITORING.

Performed?:

[X] Yes [ ] No

Sampled For: Silica

Full Shift/Screening: Full shift

Significant Delay(s)?

[ ] Yes [X] No

If yes, explain:

EMPLOYER'S OCCUPATIONAL HEALTH PROGRAM

MONITORING PROGRAM

Is any sampling being performed?

[X] Yes [ ] No

Not at this site, however. Similar work at the Portland Bridge in Maine was sampled. Some results included in the case file.

If Yes, Describe:Hazard By Whom Method Frequency
(see case file)

Were overexposures documented by the employer?

[X] Yes [ ] No

Were results obtained by CSHO/IH?

[X] Yes [ ] No

MEDICAL SURVEILLANCE PROGRAM

Does the employer have a medical program?

[X] Yes [ ] No

Are any programs required by OSHA health standards?

[X] Yes [ ] No

Were any deficiencies noted on frequency, protocol or records?

[X] Yes [ ] No

Annual physicals are performed, including PFTs and blood leads if applicable, but no chest x-rays for employees exposed to silica.

EDUCATION AND TRAINING PROGRAM

Does the employer have an education and training program?
[X] Yes [ ] No
Are any programs required by OSHA health standards (other than the Hazard Communication Standard)?
[X] Yes [ ] No
Were any deficiencies noted on content or frequency?
[ ] Yes [X] No

RECORDKEEPING PROGRAMS (Other than 29 CFR 1904 requirements)

Does the employer have a recordkeeping program relating to any occupational health issues (monitoring, medical, training, respirator fit tests, ventilation measurements, etc.)?
[X] Yes [ ] No
Are any programs required by OSHA health standards?
[X] Yes [ ] No
Were any deficiencies noted on content, frequency or access?
[ ] Yes [X] No

COMPLIANCE PROGRAMS
(engineering controls, PPE, regulated areas, emergency procedures, compliance plans, etc.)

Address any relevant compliance efforts regarding potential health hazards covered by the scope of the inspection.

See the attached sheet for a summary done by the company of the engineering controls which had been attempted by the employer prior to the OSHA inspection. None of these worked for various reasons shown, however, this CSHO provided info during the closing conference on other systems available which may be feasible in this situation. Note: The original complaint was about the grinding on the bridge deck. This work was already completed when the inspection was conducted, however, the employees were grinding the piers below the bridge, also known as the "stems" and "head." The engineering controls attempted were for this situation, not for the work an the bridge deck. It is felt that some of the methods which did not work on the piers, could work on the bridge deck during grinding.

PERSONAL HYGIENE FACILITIES AND PRACTICES
(showers, lockers, change rooms, etc.)

Are any required by OSHA health standards?
[ ] Yes [X] No
What Standards:
Were any deficiencies noted?
[ ] Yes [X] No
What: Note : Employees wore either coveralls or a rain suit for protection of their clothing against silica dust. The employee who wears the coveralls brings them home to wash them.

LABELING AND POSTING POLICIES AND PROCEDURES
(Other than 29 CFR 1903, 29 CFR 1904 and Hazard Communication Standard)

Are any required by OSHA health standards?
[ ] Yes [X] No
What Standards:
Were any deficiencies noted?
[ ] Yes [ ] No
What:

HAZARD COMMUNICATION PROGRAM

Written Program (complete)
[X] Yes [ ] No

MSDS's (all)
[X] Yes [ ] No

Labeling (adequate)
[X] Yes [ ] No

Training (complete)
[X] Yes [ ] No

Copy MSDSs/Programs attached
[X] Yes [ ] No

Comments:

ACCESS TO EXPOSURE & MEDICAL RECORDS

FIRE PROTECTION AND EVACUATION PROCEDURES

SYSTEMS SAFETY AND EMERGENCY RESPONSE

RESPIRATOR PROGRAM - Copy in case file. This program was fairly good.

LOCKOUT TAGOUT/ \ELECTRICAL SAFE WORKPRACTICES

FIRST AID

ELECTRICAL SAFE WORKPRACTICES

EXPOSURE CONTROL PLAN

LABORATORY STANDARD

ERGONOMIC PROBLEMS
[ ] Yes [X] No

If yes, complete the items 1 and 2 below.

1.Lifting (10% or more similarly exposed employees injured)

a. Total # of employees exposed to job:

b. Total # of cases for job:

2.CTD's (10% or more similarly exposed employees have CTD's; 5% or more CTs cases)

a. Total # of employees exposed to job:

b. Total # of cases for job:

Other significant injury/illness trends:
[ ] Yes [X] No

If yes, explain.

EVALUATION OF EMPLOYER'S OVERALL SAFETY AND HEALTH PROGRAM

Construction Industry:

[X] Yes [ ] No Accident Prevention Program

[X] Yes [ ] No Written

[ ] Yes [X] No Copy Attached

Evaluation of Safety and Health Program
(0=Nonexistent 1=Inadequate 2=Average 3=Above average)

[3] Written S&H Program

[2] Communication to Employees

[2] Enforcement

[2] Safety Training Program

[2] Health Training Program

[2] Accident Investigation Performed

[2] Preventive Action Taken

Comments:

CLOSING CONFERENCE NOTES:

Were any unusual circumstances encountered such as, but not limited to, abatement problems, expected contest and/or negative employer attitude? If yes, explain below.

[ ] Yes [X] No

19. Closing Conference Checklist ("x" as appropriate)

[ ] No Violations Observed

[X] Gave Copy Employer Rights

[X] Reviewed Hazards & Standards

[X] Discuss Employer Rights/Obligations

[X] Encouraged Informal Conference

[X] Offered Abatement Assistance

[ ] Discussed Consultation Programs

[ ] Employer/Employee Questionnaires

Closing Conference Held with Employee Representative

☐ Jointly ☐ Separately N/A

CSHO Signature		Date	12/5/97
Accompanied By			

OSHA COLLECTED AIR SAMPLING RESULTS

SCREENING SAMPLES *				
DATE/TIME	EMPLOYEE-JOB	CHEMICAL	RESULTS	LIMITS
10/14/97	Bulk from Bridge Deck	Silica (Crystalline Quartz)	20.0%	N/A
10/16/97	Bulk from "float"	Silica (Crystalline Quartz)	20.0%	N/A

FULL SHIFT SAMPLING **				
DATE/TIME	EMPLOYEE-JOB	CHEMICAL	RESULTS	LIMITS ***
10/16/97		Respirable Silica	2.61 mg/m^3	0.721 mg/m^3
10/16/97		Respirable Silica	1.58 mg/m^3	0.821 mg/m^3

** RESULTS OF FULL SHIFT SAMPLING ARE EXPRESSED AS AN 8-HR TWA
***THE LIMITS GIVEN ARE THE DERIVED PERMISSIBLE EXPOSURE LIMITS BASED ON THE PERCENTAGE OF SILICA IN EACH OF THE SAMPLES COLLECTED

$$PEL = \frac{10\ mg/m^3}{\%\ silica + 2}$$

TWA-time weighted average
PEL-permissible exposure limit-unless otherwise specified it is expressed as an 8 hr TWA
MG/M3-milligrams per cubic meter

U.S. Department of Labor
Occupational Safety and Health Administration

Inspection Report

Fri Dec 5, 1997 4:12pm

Rpt ID	Assignment Nr.	CSHO ID	Supervisor ID	Inspection Nr.	Opt. Insp. Nr.
0111700	842058075	S5753	K9321	300444635	227

Establishment Name					
Site Address	Dover, NH 03820	Site Phone		Site FAX	
Mailing Address	Pittsfield, ME 04967	Mail Phone		Mail FAX	
Controlling Corp		Employer ID			
Ownership	A. Private Sector	City	0090	County	017
Legal Entity		Previous Activity (State Only)			

Related Activity					
Type	Number	Satisfied	Type	Number	Satisfied
C. Complaint	200606291	Health			

Employed in Establishment	25	Advance Notice?	No	Category	H. Health
Covered By Inspection	2	Union?	No	Primary SIC	1611
Controlled By Employer	1500	Walkaround?	Yes	Secondary SIC	
		Interviewed? (State only)		Inspected (State Only)	

OSHA-200 Log Entries	Not Available		Year		LWDI Rate	

Inspection Type	B. Complaint	Reason No Inspection	
Scope of Inspection	B. Partial Inspection		
Classification	National Emphasis Program SILICA - Insps - Presence of Crystalline Silica/Silicates		

Anticipatory Warrant Served?	No	Denial Date	Date ReEntered	Date ReDenied	ReEntered
Anticipatory Subpoena Served?	No				

Entry	10/14/97	08:50	First Closing Conference	12/03/97	14:30
Opening Conference	10/14/97	09:15	Second Closing Conference		
Walkaround	10/14/97	10:40	Exit	12/03/97	16:00
Days On Site	3		Case Closed		
			No Citations Issued		

Type	ID	Optional Information
N	20	S

12/5/97 ← added to computer - [illegible]

CSHO Signature		Date	12/5/97

U. S. Department of Labor
Occupational Safety and Health Administration

Notice of Alleged Safety or Health Hazards

		Complaint Number		200606291
Establishment Name				
Site Address	Dover, NH 03820			
	Site Phone		Site FAX	
Mailing Address	, Pittsfield, ME 04967			Pittsfield, ME 04967
	Mail Phone		Mail FAX	
Management Official			Telephone	
Type of Business	highway construction			

HAZARD DESCRIPTION/LOCATION. Describe briefly the hazard(s) which you believe exist. Include the approximate number of employees exposed to or threatened by each hazard. Specify the particular building or worksite where the alleged violation exists.

DESCRIPTION:
Employees grinding on concrete surfaces are exposed to respirable silica and no engineering controls are in use.

LOCATION:

U.S. Department of Labor
Occupational Safety and Health Administration

Inspection Narrative

Fri Dec 5, 1997 4:12pm

Inspection Nr.	300444635
Opt. Case Number	227

Establishment Name			
Legal Entity		Type of Business	Construction

Additional Citation Mailing Addresses	

Organized Employee Groups	

Authorized Employee Representatives	

Employer Representatives Contacted		
Name	Title	Function
	Safety Specialist	I O C M
	Project Manager	I O C
	Project Engineer	C
	Assistant Safety Director	C
	Regional Safety Superinte	C
	On-site Safety Specialist	C
	Manager Environmental Haz	C

Other Persons Contacted	
Tradesman -	Mason -

Entry	10/14/97	08:50	First Closing Conference	12/03/97	14:30
Opening Conference	10/14/97	09:15	Second Closing Conference		
Walkaround	10/14/97	10:40	Exit	12/03/97	16:00
			Case Closed		

Penalty Reduction Factors					
Size	0	Good Faith	25	History	0

Followup Inspection?	Y	Reason	site there for another year

conference, should you decide to do so. Please keep in mind that a written letter of intent to contest must be submitted to the Area Director within 15 working days of your receipt of this Citation. The running of this contest period is not interrupted by an informal conference.

If you decide to request an informal conference, please complete, remove and post the page 3 Notice to Employees next to this Citation and Notification of Penalty as soon as the time, date, and place of the informal conference have been determined. Be sure to bring to the conference any and all supporting documentation of existing conditions as well as any abatement steps taken thus far. If conditions warrant, we can enter into an informal settlement agreement which amicably resolves this matter without litigation or contest.

Right to Contest - You have the right to contest this Citation and Notification of Penalty. You may contest all citation items or only individual items. You may also contest proposed penalties and/or abatement dates without contesting the underlying violations. Unless you inform the Area Director in writing that you intend to contest the citation(s) and/or proposed penalty(ies) within 15 working days after receipt, the citation(s) and the proposed penalty(ies) will become a final order of the Occupational Safety and Health Review Commission and may not be reviewed by any court or agency.

Penalty Payment - Penalties are due within 15 working days of receipt of this notification unless contested. (See the enclosed booklet and the additional information provided related to the Debt Collection Act of 1982.) Make your check or money order payable to "DOL-OSHA." Please indicate the Inspection Number on the remittance.

OSHA does not agree to any restrictions or conditions or endorsements put on any check or money order for less than the full amount due, and will cash the check or money order as if these restrictions, conditions, or endorsements do not exist.

Notification of Corrective Action - For violations which you do not contest and which are noted on the citation with a specific abatement date, you must certify to OSHA, within 10 calendar days of the abatement date, that each violation has been corrected. The certification that the abatement is complete must include for each violation, the date and method of abatement and a statement that affected employees and their representatives have been informed of the abatement. Additionally, for violations on the citation that are indicated by the phrase, "Specific abatement documentation required," please send documents demonstrating that abatement is complete. These documents may include, but are not limited to, evidence of the purchase or repair of equipment, photographic or video evidence of abatement or other written records.

Employer Discrimination Unlawful - The law prohibits discrimination by an employer against an employee for filing a complaint or for exercising any rights under this Act. An employee who believes that he/she has been discriminated against may file a complaint no later than 30 days after the discrimination occurred with the U.S. Department of Labor Area Office at the address shown above.

Employer Rights and Responsibilities - The enclosed booklet (OSHA 3000) outlines additional employer rights and responsibilities and should be read in conjunction with this notification.

Notice to Employees - The law gives an employee or his/her representative the opportunity to object to any abatement date set for a violation if he/she believes the date to be unreasonable. The contest must be mailed to the U.S. Department of Labor Area Office at the address shown above and postmarked within 15 working days (excluding weekends and Federal holidays) of the receipt by the employer of this Citation and Notification of Penalty.

NOTICE TO EMPLOYEES OF INFORMAL CONFERENCE

An informal conference has been scheduled with OSHA to discuss the citation(s) issued on 12/12/97. The conference will be held at the OSHA office located at 279 Pleasant Street, Suite 201, Concord, NH, 03301 on _____ at _____. Employees and/or representatives of employees have a right to attend an informal conference.

U. S. Department of Lab
Occupational Safety and Health Administration

Worksheet

Fri Dec 5, 1997 3:44pm

Inspection Number	300444635
Opt. Insp. Number	227

Establishment Name					
Type of Violation	S Serious	Citation Number	01	Item/Group	001 (a)
Number Exposed	2	No. Instances	2	REC	C Complaint
Std. Alleged Vio.	1926.0055(a)				

Abatement Period	MultiStep Abatements			Final Abatement	Action Type/Dates
	PPE Period	Plan	Report		
~~30~~ 60	~~12/31/99~~ N/A	~~12/31/99~~ 30days	~~12/31/99~~ 60days	~~60days~~ 60days	

Substance Codes	9010 - SILICA CRYSTALLINE QUARTZ (AS QUARTZ), RESP. DUST

AVD/Variable Information:

29 CFR 1926.55(a): Employee(s) were exposed to material(s) at concentrations above those specified in the "Threshold Limit Values of Airborne Contaminants for 1970" of the American Conference of Governmental Industrial Hygienists:

a. Job site - On 10/16/97, an employee (Tradesman) operating a hand grinder on concrete was exposed to respirable silica (quartz) at an 8-hour time weighted average (TWA) of 2.61 mg/m^3; this exposure exceeded the derived permissible exposure limit (PEL) of 0.721 mg/m^3 for this hazardous material. The exposure level was obtained from three samples collected over a 191 minute sampling period while grinding was being performed. Zero exposure was assumed for the 289 minutes not sampled.

b. Job site - On 10/16/97, an employee (Mason) operating a hand grinder on concrete was exposed to respirable silica (quartz) at an 8-hour time weighted average (TWA) of 1.58 mg/m^3; this exposure exceeded the derived permissible exposure limit (PEL) of 0.821 mg/m^3 for this hazardous material. The exposure level was obtained from three samples collected over a 197 minute sampling period while grinding was being performed. Zero exposure was assumed for the 283 minutes not sampled.

The OSHA PEL for silica (crystalline quartz) was established to prevent respiratory diseases such as silicosis and cancer.

Penalty Calculations				Adjustment Factors			Proposed Adjusted Penalty
Severity	Probability	Gravity	GBP	Size	Good Faith	History	
H High	L Lesser	03	2500.00	0	25	0	1875.00
Repeat Factor		0					

Employee Exposure:					
Occupation	Tradesman	Employer			
Nr of Employees	1	Duration	6 months	Frequency	2X /week
Employee Name					
Address		Phone			
Occupation	Mason	Employer			
Nr of Employees	1	Duration	6 months	Frequency	2X/week
Employee Name					
Address		Phone			

Instance Description:	A. Hazard	B. Equipment	C. Location	D. Injury/Illness	E. Measurements

4. Date/Time
10/16/97

20. Instance Description - Describe the following:
    a) Hazards-Operation/Condition-Accident : During approximately 3 total hours of grinding (with breaks and lunch in between), the two employees performing the grinding were exposed to 3.62 times the derived PEI, and 1.93 times the derived PEL. The time when grinding was not performed, and employees were not sampled, was assumed as zero exposure, and the TWA for both employees was still over the derived PEL in each of these cases. see 91-A's and 91-B's for further details.
    b) Equipment: Employees were using Black & Decker 6000 RPM 7 inch angle sander. was using serial number 22986. was using serial number 26612 (5000 RPM right angle grinder).
    c) Location: Grinding was done on the three stems under the , two spans east of the barge.
    d) Injury/Illness: silicosis, lung cancer, increased risk of COPD.
    e) Measurements: Refer to 91-A and 91-B forms.

21. Photo Number	Location on Video
roll 1, frames 5-24	video # 2

23. Employer Knowledge : Should have known that levels would be high.

24. Comments (Employer, Employee, Closing Conference) :

25. Other Employer Information :

26. Classification:				
Serious	Knowledge	S or O	Repeat?	Willful?
Y	Y	S	N	N

First Repeat	Second Repeat	Repeat Penalty

Event Date	Event Code	Action Code	Citation Type	Penalty	Abate Date	Final Order
	Z Add transaction	A Add	S Serious	1875.00		

U. S. Department of Lat
Occupational Safety and Health Administration

Worksheet

Mon Dec 8, 1997 9:08am

Inspection Number	300444635
Opt. Insp. Number	227

Establishment Name					
Type of Violation	S Serious	Citation Number	01	Item/Group	001 (b)
Number Exposed	2	No. Instances	2	REC	C Complaint
Std. Alleged Vio.	1926.0055(b)				

Abatement Period	MultiStep Abatements			Final Abatement	Action Type/Dates
	PPE Period	Plan	Report		
~~90~~	~~12/31/99~~	~~12/31/99~~	~~12/31/99~~	~~60 days~~	
60	N/A	30 days	60 days	60 days	

Substance Codes	9010 - SILICA CRYSTALLINE QUARTZ (AS QUARTZ), RESP. DUST

AVD/Variable Information:

29 CFR 1926.55(b): Feasible administrative or engineering controls were not implemented to reduce employee exposure(s):

a. Job site - On 10/16/97, employees operating hand grinders were exposed to respirable silica as described in citation 1, item 1a.

ABATEMENT NOTE: Feasible means of control may include, but are not limited to:
1. Use of tools equipped with local exhaust ventilation to capture the dust at the point of origin.
2. Use of administrative controls to limit the time of exposure.

Abatement Schedule

Step 1 - Effective respiratory protection shall be provided to and used by exposed employees as an interim protective measure until feasible engineering and/or administrative controls can be implemented or whenever such controls fail to reduce employee exposure to within permissible exposure limits. (No abatement date needed - no violation of PPE)

Step 2 - A written detailed plan of abatement shall be submitted to the Area Director outlining a schedule for the implementation of engineering and/or administrative measures to control employee exposures to hazardous substances as referenced in this citation. This plan shall include, at a minimum, target dates for the following actions which must be consistent with the abatement dates required by this citation:

(1) Evaluation of engineering/administrative control options;

(2) Selection of optimum control methods and completion of design;

(3) Procurement, installation and operation of selected control measures;

(4) Testing and acceptance or modification/redesign of controls.

All proposed control measures shall be approved for each particular use by a competent industrial hygienist or other technically qualified person. 90-day progress reports are required during the abatement period.

Step 3 - Abatement shall have been completed by the implementation of feasible engineering and /or administrative controls upon verification of their effectiveness in achieving compliance.

Penalty Calculations				Adjustment Factors			Proposed Adjusted Penalty
Severity	Probability	Gravity	GBP	Size	Good Faith	History	

H High	L Lesser	03	2500.00	0	25	0	0.0
Repeat Factor		0					

Employee Exposure:					
Occupation	Tradesman	Employer			
Nr of Employees	1	Duration	6 months	Frequency	2X /week
Employee Name					
Address			Phone		
Occupation	Mason	Employer			
Nr of Employees	1	Duration	6 months	Frequency	2X/week
Employee Name					
Address			Phone		

Instance Description: A. Hazard B. Equipment C. Location D. Injury/Illness E. Measurements

Event Date	Event Code	Action Code	Citation Type	Penalty	Abate Date	Final Order
	Z Add transaction	A Add	S Serious	0.0		

Air Sampling Worksheet

U.S. Department of Labor
Occupational Safety and Health Administration

1. Reporting ID: 111700
2. Inspection Number: 300444635
3. Sampling Number: **914859087**
4. Establishment Name:
5. Sampling Date: 10-16-97
6. Shipping Date: 10-21-97
7. Person Performing Sampling (Signature)
8. Print Last Name
9. CSHO ID: 55753
10. Employee (Name ... Number)

On this site since spring / 13 yrs. total w/ Co. [illegible]

14. Exposure Information — a. Number — b. Duration — c. Frequency

15. Weather Conditions: ~~45-50°~~ 55°F, 74% Humidity, Bar Press. 30.47, Dew Point 48°F

16. Photo(s): (Y)

11. Job Title: Mason

12. Occupation Code

site / Portland Bridge

13. PPE (Type and effectiveness): AO half mask w/ HEPA filters. Coveralls, sweatshirt, lifevest, gloves, steel toe shoes, Hard hat w/ face shield attached, ear plugs

17. Pump Checks and Adjustments: 8:05-8:10 (ran before cassette attached); 8:10 cal. 8:13 moved cyclone to other side; 8:20 (to left shoulder) (adjust pump at lunch)

18. Job Description, Operation, Work Location(s), Ventilation, and Controls: Started grinding pier at 8:34 - working on middle pier 2 row in from east end of bridge ~~[illegible]~~ 5th from far east | After break working on same pier w/ [illegible]; at 10:12 moved to center pier [illegible] Here 11:10. ~10 (Cont'd [illegible] B.)

19. Pump Number:

Sampling Data

20. Lab Sample Number						
21. Sample Submission Number	F753 →		F687	F572		
22. Sample Type	P →		P	P		
23. Sample Media	PVC →		PVC	PVC		
24. Filter/Tube Number	F753 →	F753	F687	F572		
25. Time On/Off	8:20 9:16	9:49 11:15	11:18 11:46	1:20 1:47		
26. Total Time (in minutes)	56 min +	86 min. = 142 min	28.	27		
27. Flow Rate ☒ l/min ☐ cc/min	—	1.74	1.74	1.7		
28. Volume (in liters)	—	247	48.7	45.9		
29. Net Sample Weight (in mg)	—					

30. Analyze Samples for:	31. Indicate Which Samples To Include in TWA, Ceiling, etc. Calculations					
Silica	—	T	T	T		

32. Interferences and IH Comments to Lab

10 / 10-20-97

33. Supporting Samples
a. Blanks: F692
b. Bulks: B-2

34. Chain of Custody	Initials	Date
a. Seals Intact?	Y N	
b. Rec'd in Lab		
c. Rec'd by Anal.		
d. Anal. Completed		
e. Calc. Checked		
f. Supr. OK'd		

Case File Page ___ of ___

MOD Date Air Sampling Report U.S. Department of Labor Occupational Safety and Hlth Admin.

1. Reporting ID: 111700 2. Inspection No: 300444035 3. Sampling Number: 914859087

4. Establishment Name: (

5. CSHO ID: 55753 6. Sampling Date: 10/16/97 7. Shipping Date: 10/21/97 8. Date Results Received:

9. Job Title: MASON 11. Number Exposed:

12. Frequency of Exposure:

Exposure Summary

13. Line No.	14. Sub. Code	15. Req std	16. Smpl Type	17. Exp Type	18. Exposure Level	19. Units	20. PEL	21. Adj	22. Severity	23. Citation Information No Cit.	FTA	Over Exp.	Eng.	PPE	Trng.	Med.	Other
~~F~~	~~G301~~	~~L~~	~~P~~	~~T~~	~~4.0000 M~~					A	B	C	D	E	F	G	H
~~B~~	~~G302~~	~~L~~	~~P~~	~~T~~	~~0.0000 Y~~					A	B	C	D	E	F	G	H
1	29010	L	P	T	1.58	M	0.821	Y	1.926	A	B	(C)	(D)	E	F	G	H
										A	B	C	D	E	F	G	H
										A	B	C	D	E	F	G	H

24. Additives (Enter Line No. for those agents contributing to additive effect): A B C D E F G H

25. Total Number of Lines (13): 1 Analysis Results

26. Analyst's Comments (Including Analytical Method) GRAV

27. CHAIN OF CUSTODY	INIT	DATE
a. Seals Intact?	✓	
b. Recd in Lab		10/23/97
c. Recd by Anal.		10/24/97
d. Anal. Completed		10/30/97
e. Calc. Checked		10/30/97
f. Supr OK		11/12/97

28. Sample Submission No	F753	F687	F572	F692
29. Lab Sample No.	R 68576 AIR	R 68577 AIR	R 68578 AIR	R 68579 ABLNK
Time / Type	142.0Min/ P	20.0 P	27.0 P	0.0 P

30. Analyte Name	31. Analysis Results / 32. Sample Included in Calculations of:			
G301 Gravimetric Determination	4.0709 M T	0.9343 M T	5.7843 M T	0.000000 T BLK
G302 Sample Weight	1.0050 Y T	0.0460 Y T	0.2650 Y T	0.000000 T BLK

OSHA-91B (Rev. 1/84) Sampling Number: 914859087 Case File Page /of

TWA calculated on actual time sampled. The I.H. is free to make changes on the Form 91B and submit them directly to IMIS.

UNITS of MEASURE are:

P = Parts per million	M = Milligrams per cubic meter	L = Milligrams per liter (urine)
F = Fibers per cubic centimeter	% = Percent	D = Micrograms per deciliter (blood)
X = Micrograms	Y = Milligrams	C = Pico curies per liter (Radon gas)

Analyte codes are chosen by the laboratory. The I.H. should review them for applicability. if there are any questions call the laboratory for appropriate analyte codes (ie. ICP uses fume analyte codes when the IH may have sampled for dust).

Sampling Number: 914859087 Electronic Copy

MOD Date Air Sampling Report U.S. Department of Labor Occupational Safety and Health Admin.

1. Reporting ID: 111/00 2. Inspection No: 300444635 3. Sampling Number: 914859087

4. Establishment Name:

5. CSHO ID: S5753 6. Sampling Date: 10/16/97 7. Shipping Date: 10/21/97 8. Date Results Received:

9. Job Title: MASON 11. Number Exposed:

12. Frequency of Exposure:

Exposure Summary _____

13. Line No.	14. Sub. Code	15. Req std	16. Smpl Type	17. Exp Type	18. Exposure Level	19. Units	20. PEL	21. Adj	22. Severity	23. Citation Information: No Cit.	FTA	Over Exp.	Eng.	PPE	Trng.	Med.	Other
										A	B	C	D	E	F	G	H
										A	B	C	D	E	F	G	H
										A	B	C	D	E	F	G	H

24. Additives (Enter Line No. for those agents contributing to additive effect): A B C D E F G H

25. Total Number of Lines (13): Analysis Results

26. Analyst's Comments (Including Analytical Method) ID-142

The Det. Lim for 9010 Air samples is 10 micrograms.

27. CHAIN OF CUSTODY	INIT	DATE
a. Seals Intact?	Y	
b. Recd in Lab		10/23/97
c. Recd by Anal.		11/03/97
d. Anal. Completed		11/07/97
e. Calc. Checked		11/12/97
f. Supr OK		11/12/97

28. Sample Submission No	F753	F687	F572	F692
29. Lab Sample No.	N 68584 AIR	N 68585 AIR	N 68586 AIR	N 68587 ABLNK
Time / Type	142.0Min/ P	28.0 P	27.0 P	0.0 P

30. Analyte Name	31. Analysis Results / 32. Sample Included in Calculations of:			
9010 Silica, Crystalline Quartz (as Qua	9.9000 % T	0.000000 T ND	13.0000 % T	0.000000 T BLNK

TWA calculated on actual time sampled. The I.H. is free to make changes on the Form 91B and submit them directly to IMIS.

UNITS of MEASURE are:

P = Parts per million	M = Milligrams per cubic meter	L = Milligrams per liter (urine)
F = Fibers per cubic centimeter	% = Percent	D = Micrograms per deciliter (blood)
X = Micrograms	Y = Milligrams	C = Pico curies per liter (Radon gas)

Analyte codes are chosen by the laboratory. The I.H. should review them for applicability. If there are any questions call the laboratory for appropriate analyte codes (ie. NCP uses fume analyte codes when the IH may have sampled for dust).

The Sampling and Analytical Error (SAE) is the current value for the specific chemical(s) and should be used for further calculations:

Silica, Crystalline Quartz (as 0.20

ND The results are below the detection limits.

Sampling Number: 914859087 Electronic Copy

Pre-Sampling Calibration Records

35. Pump Mfg. & SN: 01366	**38.** Flow Rate Calculations: 1699 1702 / 1702 1705 / 1700 1704 — Avg 1702 — Roto 1.85	
36. Voltage Checked? ☑ Yes ☐ No 6.5V		
37. Location/T & Alt.: CAO		
39. Flow Rate: 1.7 Lpm	**40.** Method GIL 3970S ☑ Bubble ☐ PR	**41.** Initials: LJS — **42.** Date/Time: 10/15/97 pm

Post-Sampling Calibration Records

43. Location/T & Alt.	**44.** Flow Rate Calculations: 1746 / 1746 / ~~17__~~ 1738	adjusted 10/16/97: 1701 1700 / 1699 1699 / 1700 1700 — Avg 1700
45. Flow Rate: 1.74	**46.** Initials: LJS	1.700 — **47.** Date/Time

Sample Weight Calculations

48. Filter No.					
49. Final Weight (mg)					
50. Initial Weight (mg)					
51. Weight Gained (mg)					
52. Blank Adjustment					
53. Net Sample Weight (mg)					

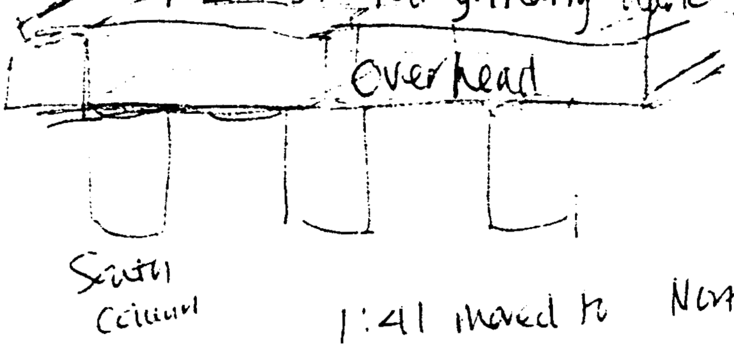
Second post cal
10/17/97 am 1710 1710
CAO Lab 1709 1710
1701 1710
Avg 1708
1.7 Lpm LJS Gil 3970S

54. Calculations and Notes:

moved to North pier, still working on center pier

10:35 moved to South Column
Stayed there for next hour, also there for filter change
Not much more grinding after filter change before lunch

~~1:21~~ Started grinding "dark spots on



Shave everyday
Last shaved this morning

1:41 moved to North column (horizontal)

Noticed no ear plugs

Air Sampling Report

U.S. Department of Labor
Occupational Safety and Health Administration

Thu Dec 11, 1997 3:57pm

MOD	Date	Reporting ID 0111700	Inspection Number 300444635	Sampling Number 914859087
Establishment Name				
CSHO ID S5753	Sampling Date 10/16/97	Shipping Date 10/21/97	Date Result Received 11/13/97	
Job Title Mason	Occupation Code	Number Exposed 0		
Frequency of Exposure				

Exposure Summary

Line No	Substance Code	Rqstd	Smpl Type	Exp Type	Exposure Level	Units	PEL	Adj	Severity	Citation Information							
										No Cit	FTA	Over Exp	Eng	PPE	Trng	Med	Other
01	9010	L	P	T	1.58000	M	0.82100	X	1.92448			X	X				

Additives:											
Total Number of Lines											

Analyst's Comments (Including Analytical Method)	Chain of Custody		
	Seals Intact		
	Received in Lab		
	Received by Analyst		
	Analysis Complete		
	Calculation Checked		
	Supervisor Ok'd.		

Sample Submission Number						
Lab Sample Number						
Analyte Name	Analysis Results and Sample Included in Calculation of:					
					Case File Page	of

Air Sampling Worksheet

U.S. Department of Labor
Occupational Safety and Health Administration

9696 Thursday
Pick was about 1½ days

1. Reporting ID 111700	**2.** Inspection Number 300 444635	**3.** Sampling Number ▶ 914859079
4. Establishment Name		**5.** Sampling Date 10/16/97 — **6.** Shipping Date 10-21-97
7. Person Performing Sampling (Signature	**8.** Print Last Name	**9.** CSHO ID 55753

10. Employee (Name, Address, Telephone Number)

4415 W
Ct.
6 months on site

14. Exposure Information — a. Number: 2 — b. Duration: One month depends on the civil work

c. Frequency: 2 hrs. 2x/week

15. Weather Conditions: ~~55~~ 74% Humidity, 38° Dew Pt. Barometric Press. 30.47

16. Photo(s): (Y) materials

11. Job Title: Tradesman

12. Occupation Code

13. PPE (Type and effectiveness): Half mask w/HEPA filters, Hard hat, safety glasses, face shield attached to hard hat, Rain pants + jacket, knee pads, steel toe boots, gloves, earplugs

17. Pump Checks and Adjustments: 8:10 ck - run for 5 min. before attaching filter
10 stop 11:04 ck
cyclone on right shoulder

18. Job Description, Operation, Work Location(s), Ventilation, and Controls:
Started Grinding floor at 8:30 - North column, 2nd row in
Stopped approx. 9:10 went back to store for break - turned off pump
Started on South column w/ - 9:50 - 10:10 - Then started center column Then moved over to center column also at 10:12

Cont'd

19. Pump Number: 01395

Sampling Data

20. Lab Sample Number						
21. Sample Submission Number	F727	→	~~F[illegible]~~ F620	~~F[illegible]~~ F749		
22. Sample Type	P	→	P	P		
23. Sample Media	PVC	→	PVC	PVC		
24. Filter/Tube Number	F727	→	F620	F749		
25. Time On/Off	8:29 9:16	9:49 11:00	11:04 11:48	1:23 1:~~52~~ (1:52)		
26. Total Time (in minutes)	47 +	71 = 118	44	29		
27. Flow Rate ☒ l/min ☐ cc/min	—	1.7	1.7	1.7		
28. Volume (in liters)	—	200.6	74.8	49.3		
29. Net Sample Weight (in mg)	—					

7" grinder diamond blade

30. Analyze Samples for:	**31.** Indicate Which Samples To Include in TWA, Ceiling, etc. Calculations					
Silica	—	T	T	T		

32. Interferences and IH Comments to Lab

33. Supporting Samples
a. Blanks: F126
b. Bulks: B-2

34. Chain of Custody	Initials	Date
a. Seals Intact?	Y N	
b. Rec'd in Lab		
c. Rec'd by Anal.		
d. Anal. Completed		
e. Calc. Checked		
f. Supr. OK'd		

Case File Page / of

OSHA-91A (Rev. 1/84)

P 536 295 837

US Postal Service
Receipt for Certified Mail
No Insurance Coverage Provided.
Do not use for International Mail *(See reverse)*

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Street & Number	
Post Office, State, & ZIP Code	
Postage	$
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Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, & Addressee's Address	
TOTAL Postage & Fees	$
Postmark or Date	

PS Form **3800**, April 1995

Bulk Sampler

P 536 295 836

S Postal Service
eceipt for Certified Mail
Insurance Coverage Provided.
not use for International Mail *(See reverse)*

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ial Delivery Fee	
cted Delivery Fee	
Receipt Showing to & Date Delivered	
Receipt Showing to Whom, Addressee's Address	
. Postage & Fees	$
rk or Date	

Air Sampler

P0701.8

9 1695

S	41. Initials	42. Date/Time
		10/15/97 PM

9 1690

. Date/Time 10/17/97 am

? 10/16/97

Avg

48

49.

50.

51. Gained *(mg)* 1702 1700

52. Blank Adjustment 1699 1697

53. Net Sample Weight *(mg)* 1708 1695

Trailer

54. Calculations and Notes

10:19 moved over to North Pier - Still grinding center pier. Started on east side then had to ice on back on plank across two floats to get South side. Then did west side - wind blowing dust away

10:38 Lizie plank put across on North side of column and he started on that side

11:00 Switching filters
4 more [illegible] on North [illegible]
11:33 Started [illegible] column

00C100012
5000 RPM
Model 4052

Shave - Twice a week
Last shaved Tues night

1:25 Started grinding dark spots - previously patched areas on the horizontal structure

MOD Date Air Sampling Report U.S. Department of Labor Occupational Safety and Health Admin.

1. Reporting ID: 111700 2. Inspection No: 300444635 3. Sampling Number: 914859079

4. Establishment Name:

5. CSHO ID: S5753 6. Sampling Date: 10/16/97 7. Shipping Date: 10/21/97 8. Date Results Received:

9. Job Title: TRADESMAN 11. Number Exposed:

12. Frequency of Exposure:

Exposure Summary

13. Line No.	14. Sub. Code	15. Req std	16. Smpl Type	17. Exp Type	18. Exposure Level	19. Units	20. PEL	21. Adj	22. Severity	23. Citation Information: No Cit.	FTA	Over Exp.	Eng.	PPE	Trng.	Med.	Other
~~G201~~	~~L~~	~~P~~	~~T~~	~~6.6000~~	~~M~~					A	B	C	D	E	F	G	H
~~6802~~	~~L~~	~~P~~	~~T~~	~~1.0000~~	~~Y~~					A	B	C	D	E	F	G	H
1	9010	L	P	T	2.609	M	0.721	Y	3.621	A	B	(C)	(D)	E	F	G	H
										A	B	C	D	E	F	G	H
										A	B	C	D	E	F	G	H

24. Additives (Enter Line No. for those agents contributing to additive effect):

25. Total Number of Lines (13): Analysis Results

26. Analyst's Comments (Including Analytical Method) GRAV

27. CHAIN OF CUSTODY	INIT	DATE
a. Seals Intact?	Y	
b. Recd in Lab		10/23/97
c. Recd by Anal.		10/24/97
d. Anal. Completed		10/30/97
e. Calc. Checked		10/30/97
f. Supr OK		11/12/97

28. Sample Submission No	F727	F620	F749	F126
29. Lab Sample No.	R 68680 AIR	R 68681 AIR	R 68682 AIR	R 68683 ABLNK
Time / Type	118.0Min/ P	44.0 P	29.0 P	0.0 P

30. Analyte Name	31. Analysis Results / 32. Sample Included in Calculations of:			
G301 Gravimetric Determination	7.1162 M T	5.4211 M T	6.0142 M T	0.000000 T BLK
G302 Sample Weight	1.4270 Y T	0.4060 Y T	0.2960 Y T	0.000000 T BLK

TWA calculated on actual time sampled. The I.H. is free to make changes on the Form 91B and submit them directly to IMIS.

UNITS of MEASURE are:

P = Parts per million	M = Milligrams per cubic meter	L = Milligrams per liter (urine)
F = fibers per cubic centimeter	% = Percent	D = Micrograms per deciliter (blood)
X = Micrograms	Y = Milligrams	C = Pico curies per liter (Radon gas)

Analyte codes are chosen by the laboratory. The I.H. should review them for applicability. if there are any questions call the laboratory for appropriate analyte codes (ie. ICP uses fume analyte codes when the IH may have sampled for dust).

Sampling Number: 914859079 Electronic Copy

MCO Date Air Sampling Report U.S. Department of Labor Occupational Safety and Health Admin.

1. Reporting ID: 111700 2. Inspection No: 300444636 3. Sampling Number: 914059079

4. Establishment Name:

5. CSHO ID: 05753 6. Sampling Date: 10/16/97 7. Shipping Date: 10/21/97 8. Date Results Received:

9. Job Title: TRADESMAN 11. Number Exposed:

12. Frequency of Exposure:

Exposure Summary _____

13. Line No.	14. Sub. Code	15. Req std	16. Smpl Type	17. Exp Type	18. Exposure Level	19. Units	20. PEL	21. Adj	22. Severity	23. Citation Information No Cit.	PIA	Over Exp.	Eng.	PPE	Trng.	Med.	Other
										A	B	C	D	E	F	G	H
										A	B	C	D	E	F	G	H
										A	B	C	D	E	F	G	H

24. Additives (Enter Line No. for those agents contributing to additive effect): A B C D E F G H

25. Total Number of Lines (13): Analysis Results

26. Analyst's Comments (Including Analytical Method) ID-142

27. CHAIN OF CUSTODY

	INIT	DATE
a. Seals Intact?	Y	
b. Recd in Lab		10/23/97
c. Recd by Anal.		11/03/97
d. Anal. Completed		11/07/97
e. Calc. Checked		11/12/97
f. Supr OK		11/12/97

28. Sample Submission No	F727	F620	F749	F126
29. Lab Sample No.	R 68588 AIR	R 68589 AIR	R 68590 AIR	R 68591 ABLNK
Time / Type	118.0Min/ P	44.0 P	29.0 P	0.0 P
30. Analyte Name	31. Analysis Results / 32. Sample Included in Calculations of:			
9010 Silica, Crystalline Quartz (as Qua	13.0000 % T	9.3000 % T	10.0000 % T	0.000000 T BLNK

OSHA-91B (Rev. 1/84) Sampling Number: 914059079 Case File Page /of

TWA calculated on actual time sampled. The I.H. is free to make changes on the Form 91B and submit them directly to IMIS.

UNITS of MEASURE are:

P = Parts per million	M = Milligrams per cubic meter	L = Milligrams per liter (urine)
F = Fibers per cubic centimeter	% = Percent	D = Micrograms per deciliter (blood)
X = Micrograms	Y = Milligrams	C = Pico curies per liter (Radon gas)

Analyte codes are chosen by the laboratory. The I.H. should review them for applicability. if there are any questions call the laboratory for appropriate analyte codes (ie. ICP uses fume analyte codes when the IH may have sampled for dust).

The Sampling and Analytical Error (SAE) is the current value for the specific chemical(s) and should be used for further calculations.

Silica, Crystalline Quartz (as 0.20

Sampling Number: 914059079 Electronic Copy

Air Sampling Report

U.S. Department of Labor
Occupational Safety and Health Administration

Thu Dec 11, 1997 3:50pm

MOD	Date	Reporting ID 0111700	Inspection Number 300444635	Sampling Number 914859079
Establishment Name				
CSHO ID S5753	Sampling Date 10/16/97	Shipping Date 10/21/97	Date Result Received 11/13/97	
Job Title Tradesman		Occupation Code	Number Exposed 2	
Frequency of Exposure 2X/week				

Exposure Summary

Line No	Substance Code	Rqstd	Smpl Type	Exp Type	Exposure Level	Units	PEL	Adj	Severity	Citation Information							
										No Cit	FTA	Over Exp	Eng	PPE	Trng	Med	Other
01	9010	L	P	T	2.60900	M	0.72100	X	3.61859			X	X				
Additives:																	

Total Number of Lines	

Analyst's Comments (Including Analytical Method)	Chain of Custody		
	Seals Intact		
	Received in Lab		
	Received by Analyst		
	Analysis Complete		
	Calculation Checked		
	Supervisor Ok'd.		

Sample Submission Number						
Lab Sample Number						
Analyte Name	Analysis Results and Sample Included in Calculation of:					
				Case File Page		of

Air Sampling Worksheet

U.S. Department of Labor
Occupational Safety and Health Administration

1. Reporting ID: 111700	2. Inspection Number: 300444635	3. Sampling Number: 914859020
4. Establishment Name	5. Sampling Date: 10/14/97	6. Shipping Date: 10/21/97
7. Person Performing Sampling (Signature)	8. Print Last Name	9. CSHO ID: SS753

10. Employee (Name, Address, Telephone Number): Bulk Sample

Bulk from Bridge Deck

11. Job Title | 12. Occupation Code

14. Exposure Information: a. Number | b. Duration | c. Frequency

15. Weather Conditions | 16. Photo(s): Y

13. PPE (Type and effectiveness)

17. Pump Checks and Adjustments

18. Job Description, Operation, Work Location(s), Ventilation, and Controls

Where Sub-Contractor - Pile or Bridge Deck was using shot blaster w/ vacuum

Cont'd

19. Pump Number: ~~01366~~

Sampling Data

20. Lab Sample Number						
21. Sample Submission Number	B-1					
22. Sample Type	Bulk					
23. Sample Media						
24. Filter/Tube Number						
25. Time On/Off						
26. Total Time (in minutes)						
27. Flow Rate ☐ l/min ☐ cc/min						
28. Volume (in liters)						
29. Net Sample Weight (in mg)						
30. Analyze Samples for:	31. Indicate Which Samples To Include in TWA, Ceiling, etc. Calculations					
% Silica	%					

32. Interferences and IH Comments to Lab

33. Supporting Samples
a. Blanks:
b. Bulks:

34. Chain of Custody	Initials		Date
a. Seals Intact?	Y	N	
b. Rec'd in Lab			
c. Rec'd by Anal.			
d. Anal. Completed			
e. Calc. Checked			
f. Supr. OK'd			

Case File Page / of

Fax Cover Page

To:

From: STEM MANAGER

Date: 12-NOV-1997

There are 7 pages including this cover page.

Comments:

LAB res. CONCORD

MOD Date Air Sampling Report U.S. Department of Labor Occupational Safety and Health Admin.

1. Reporting ID: 111700 2. Inspection No: 300444635 3. Sampling Number: 914859020

4. Establishment Name:

9. Job Title: 11. Number Exposed:

12. Frequency of Exposure:

13. Line No.	14. Sub. Code	15. Req std	16. Smpl Type	17. Exp Type	18. Exposure Level	19. Units	20. PEL	21. Adj	22. Severity	23. Citation Information No Cit.	FTA	Over Exp.	Eng.	PPE	Trng.	Med.	Other
	9010	L	B							A	B	C	D	E	F	G	H
										A	B	C	D	E	F	G	H
										A	B	C	D	E	F	G	H
										A	B	C	D	E	F	G	H

24. Additives (Enter Line No. for those agents contributing to additive effect): A B C D E F G H

25. Total Number of Lines (13): Analysis Results

26. Analyst's Comments (Including Analytical Method) ID-142

27. CHAIN OF CUSTODY	INIT	DATE
a. Seals Intact?	Y	
b. Recd in Lab		10/27/97
c. Recd by Anal.		11/03/97
d. Anal. Completed		11/07/97
e. Calc. Checked		11/12/97
f. Supr OK		11/12/97

28. Sample Submission No B-1

29. Lab Sample No. R 68598 BULK

Time / Type 0.0 Min/ B

30. Analyte Name	31. Analysis Results / 32. Sample Included in Calculations of:
9010 Silica, Crystalline Quartz (as Qua	20.0000 % T BULK

OSHA-91B (Rev. 1/84) Sampling Number: 914859020 Case File Page /of

TWA calculated on actual time sampled. The I.H. is free to make changes on the Form 91B and submit them directly to IMIS.

UNITS of MEASURE are:

P = Parts per million	M = Milligrams per cubic meter	L = Milligrams per liter (urine)
F = Fibers per cubic centimeter	% = Percent	D = Micrograms per deciliter (blood)
X - Micrograms	Y - Milligrams	C - Pico curies per liter (Radon gas)

Analyte codes are chosen by the laboratory. The I.H. should review them for applicability. If there are any questions call the laboratory for appropriate analyte codes (ie. ICP uses fume analyte codes when the IH may have sampled for dust).

Bulk samples are analyzed to provide an estimate of the composition of the material submitted. The results reported should be considered semi-quantitative only.

Sampling Number: 914859020 Electronic Copy

MOD Date Air Sampling Report U.S. Department of Labor Occupational Safety and Health Admin.

1. Reporting ID: 111700 2. Inspection No: 300444635 3. Sampling Number: 914859079

4. Establishment Name:

5. CSHO ID: S5753 6. Sampling Date: 10/14/97 7. Shipping Date: 10/21/97 8. Date Results Received:

9. Job Title: TRADESMAN 11. Number Exposed:

12. Frequency of Exposure:

Exposure Summary

13. Line No.	14. Sub. Code	15 Req std	16. Sampl Type	17. Exp Type	18. Exposure Level	19. Units	20. PEL	21. Adj	22. Severity	23. Citation Information No Cit.	FTA	Over Exp.	Eng.	PPE	Trng.	Med.	Other
	9010	L	B							A	B	C	D	E	F	G	H
										A	B	C	D	E	F	G	H
										A	B	C	D	E	F	G	H
										A	B	C	D	E	F	G	H

24. Additives (Enter Line No. for those agents contributing to additive effect): A B C D E F G H

25. Total Number of Lines (12): Analysis Results

26. Analyst's Comments (Including Analytical Method) ID-142

27. CHAIN OF CUSTODY	INIT	DATE
a. Seals Intact?	Y	
b. Recd in Lab		10/27/97
c. Recd by Anal.		11/03/97
d. Anal. Completed		11/07/97
e. Calc. Checked		11/12/97
f. Supr OK		11/12/97

28. Sample Submission No B-2

29. Lab Sample No. R 68599 BULK

Time / Type 0.0 Min/ B

30. Analyte Name	31. Analysis Results / 32. Sample Included in Calculations of:
9010 Silica, Crystalline Quartz (as Qua	20.0000 %
	T BULK

TWA calculated on actual time sampled. The I.H. is free to make changes on the Form 91B and submit them directly to IMIS.

UNITS of MEASURE are:

P = Parts per million	M = Milligrams per cubic meter	L = Milligrams per liter (urine)
F = Fibers per cubic centimeter	% = Percent	D = Micrograms per deciliter (blood)
X = Micrograms	Y = Milligrams	C = Pico curies per liter (Radon gas)

Analyte codes are chosen by the laboratory. The I.H. should review them for applicability. If there are any questions call the laboratory for appropriate analyte codes (ie. ICP uses fume analyte codes when the IH may have sampled for dust).

Bulk samples are analyzed to provide an estimate of the composition of the material submitted. The results reported should be considered semi-quantitative only.

CHEMICAL: SILICA
YOUR CONCENTRATION FOR 191 MINUTES WAS 6.557 mg/m^3
YOUR 8HR-TWA WAS 2.609 mg/m^3
YOUR PEL IS 0.721 mg/m^3
YOUR SEVERITY IS 3.621
YOUR SAE IS .2
YOUR UPPER CONFIDENCE LEVEL IS 3.821
YOUR LOWER CONFIDENCE LEVEL IS 3.421
COMMENT: OUT OF COMPLIANCE!

CHEMICAL: SILICA
YOUR CONCENTRATION FOR 197 MINUTES WAS 3.852 mg/m^3
YOUR 8HR-TWA WAS 1.581 mg/m^3
YOUR PEL IS 0.821 mg/m^3
YOUR SEVERITY IS 1.926
YOUR SAE IS .2
YOUR UPPER CONFIDENCE LEVEL IS 2.126
YOUR LOWER CONFIDENCE LEVEL IS 1.726
COMMENT: OUT OF COMPLIANCE!

Morning samp only on.
(to compare w/ company sampling)

CHEMICAL: SILICA
YOUR CONCENTRATION FOR 170 MINUTES WAS 3.554 mg/m^3
YOUR 8HR-TWA WAS 1.259 mg/m^3
YOUR PEL IS 0.872 mg/m^3
YOUR SEVERITY IS 1.443
YOUR SAE IS .2
YOUR UPPER CONFIDENCE LEVEL IS 1.643
YOUR LOWER CONFIDENCE LEVEL IS 1.243
COMMENT: OUT OF COMPLIANCE!

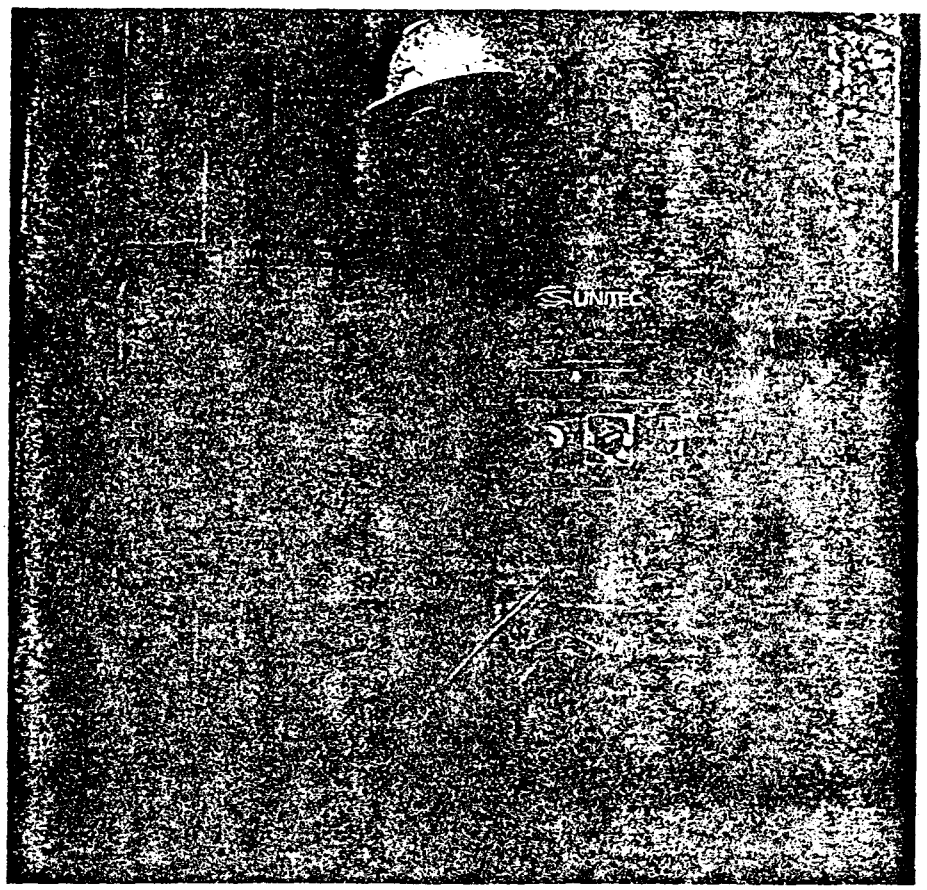
The CS 34 K Dust Extraction System

The CS 34 K power tool operated vacuum is for use in construction, industrial, automotive and marine applications. The vacuum operates wet or dry.

Benefits of removing chips and dust from the air:

- Cleaner, Safer, and more productive working conditions.
- Protects the environment
- Saves time on preparation and clean-up.
- Higher visibility increases worker output and accuracy.
- Longer abrasive and tool life.

Drill with Dust Extraction and CS 34 K Vacuum



Features of CS 34 K:

- Automatic "power take-off" outlet for electric tools (a special adaptor is also available to operate the CS 34 K vacuum with pneumatic tools).
- 99.85% filtration efficiency (for special filter and accessories for 99.97% @ 0.3 microns, consult your distributor).
- Shaker for cleaning dust deposits from filter.
- Quiet operation. Only 69 decibels.
- Electronic cut out sensor trips when container is full (wet only).
- Y adaptor available for two hose connection.

Standard equipment:

Model CS 34 K Includes: 10 Ft. Suction Hoses, Stepped Adaptor (for connecting hose to tool), Filter Bag, Crevice Tool.

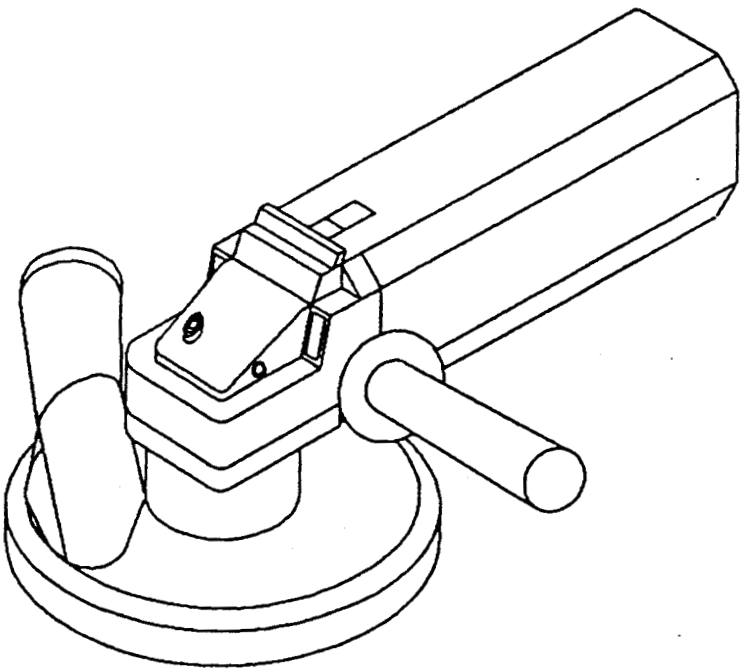
Model CS 34 K/MAX Includes: Two 10 Ft. Suction Hoses, Two Stepped Adaptors, Y-Adaptor, Five Filter Bags, Crevice tool.

CS Unitec, Inc.
378 Ely Avenue
South Norwalk, CT 06854
TOLL FREE: 800-700-5919
Tel: (203) 853-9522
FAX: (203) 853-9921

Distributed By: In Pro-
Windham, ME

SAWTEC

Operating Instructions



5" Metabo, Milwaukee, Bosch GrinderVAC

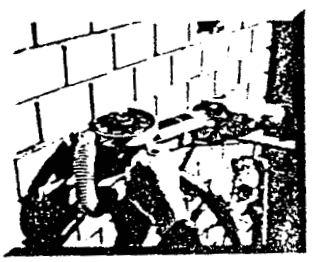
UNITEC Vacuum cleaner

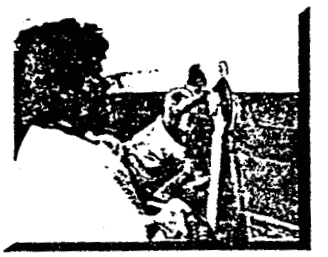
The CS 34 K Dust Extraction System

Unitec's Wet/Dry Vacuum features a two stage vacuum motor and a "power take-off" switch for operation of dust collection power tools.

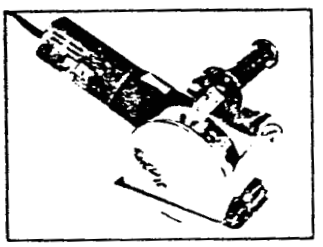
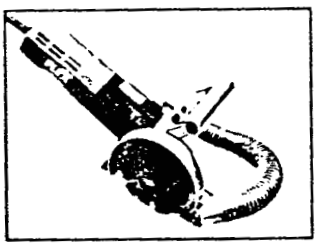
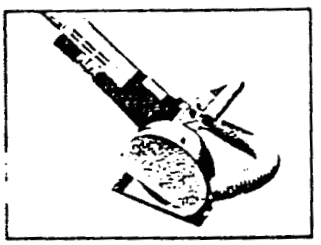
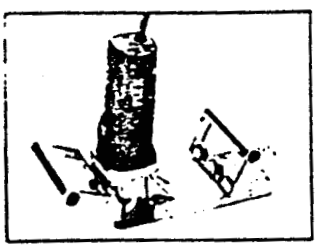
Tools are plugged into the outlet on the vacuum. When the power tool is switched on or off the vacuum turns on or off automatically. The vacuum also features a fifteen second shut-off delay in order to clear any dust remaining in the tool or hose.

Technical Data: CS 34 K	
Capacity	: 14 Gal.
Power	: 120V, 9 AMP
Air Flow	: 106 CFM
Water Lift	: 90 In.
Filter Area	: 15 Sq. Ft.
Weight	: 32 Lbs.

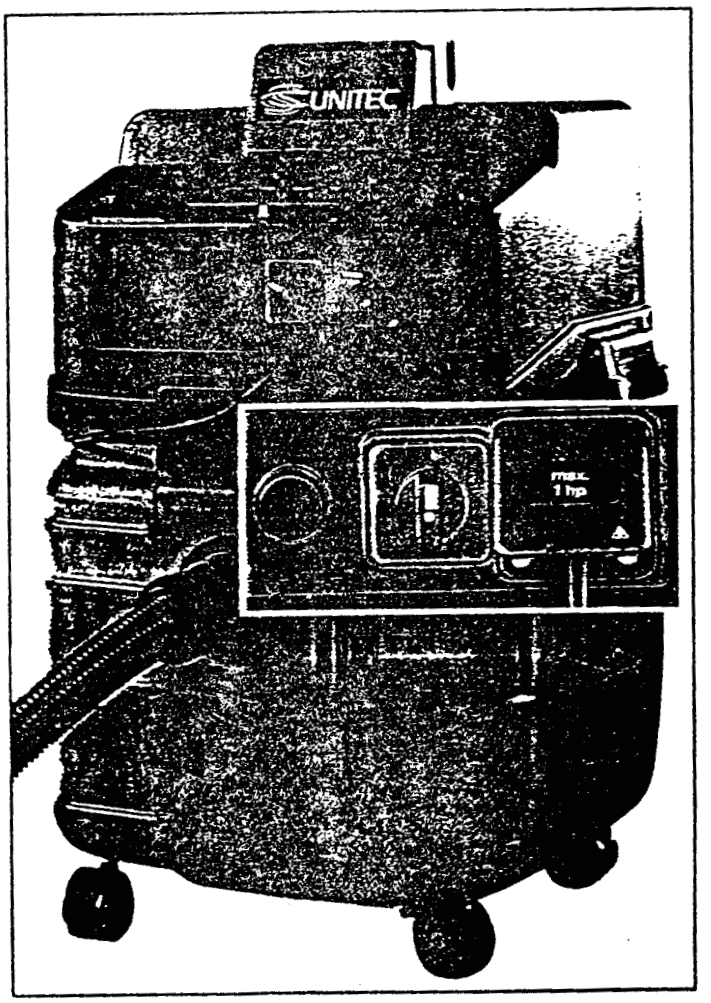



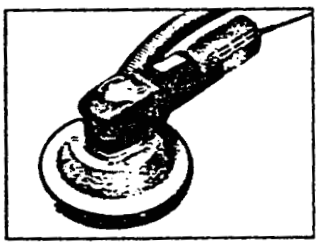
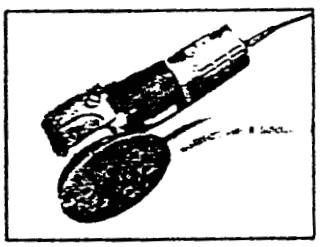
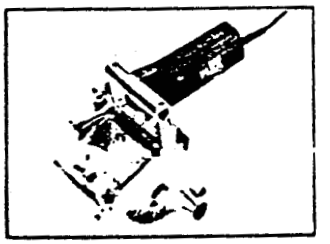
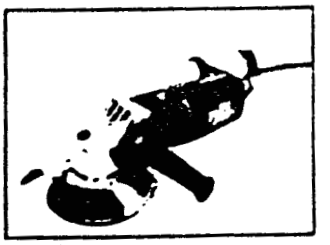


Construction Applications

Industrial Applications



Given to employee

INTRODUCTION

This GRINDER-VAC is designed for simple operation and has been proven to be extremely useful and versatile. Either a 5" diamond Cup-wheel or a 5" Zec-wheel may be mounted on the saw if they are rated and approved for operation at 8500 RPM. READ, AND CAREFULLY FOLLOW, THE OPERATING AND SAFETY INSTRUCTIONS OF THIS OPERATING AND SAFETY INSTRUCTION MANUAL BEFORE USING THIS PRODUCT. Since safety regulations can vary between different countries and states, you must contact local authorities and carefully follow their regulations.

IMPORTANT SAFETY INSTRUCTIONS

No person should attempt to operate this grinder without first being trained in the operation of industrial cutting tools. These instructions are not intended as a substitute for training and experience. The operator must observe safeguards that include, but are not limited to, the following:

- UNDER NO CIRCUMSTANCES MAY A SAW BE MODIFIED FROM ITS ORIGINAL DESIGN WITHOUT THE PERMISSION OF THE MANUFACTURER IN WRITING. NON-AUTHORIZED MODIFICATIONS CAN LEAD TO SERIOUS INJURY OR DEATH TO YOURSELF OR OTHERS.
- NEVER use any blade marked for less then 8500 RPM, or the rated grinder motor speed, whichever is greater.
- NEVER service the saw or change blades without first disconnecting the power.
- Always inspect a new blade for damage before installation.
- Spin blade by hand to check true alignment prior to use.
- Be sure that all nuts and bolts are tight.
- Always wear safety glasses, safety shoes, work gloves, dust mask and hearing protectors.
- Make sure that the saw and blade are undamaged. A damaged blade may fly apart.
- Select the proper blade for the work, and make sure that it is correctly mounted on the grinder and turns without wobbling.
- Determine that the area to be cut is clear of all foreign and loose objects, and that people are out of the way.
- Select proper manufacturers recommended blade for the material to be cut.
- Be sure that the blade and equipment arrows are going in the same directions.
- Always check arbor bearing for end play.
- NEVER cut material for which the blade is not designed.
- NEVER cut near combustible material or fumes.
- Ease the saw blade into the material being cut.

GRINDER-VAC OPERATING INSTRUCTIONS

A. ASSEMBLY OF DUST SHROUD ONTO GRINDER

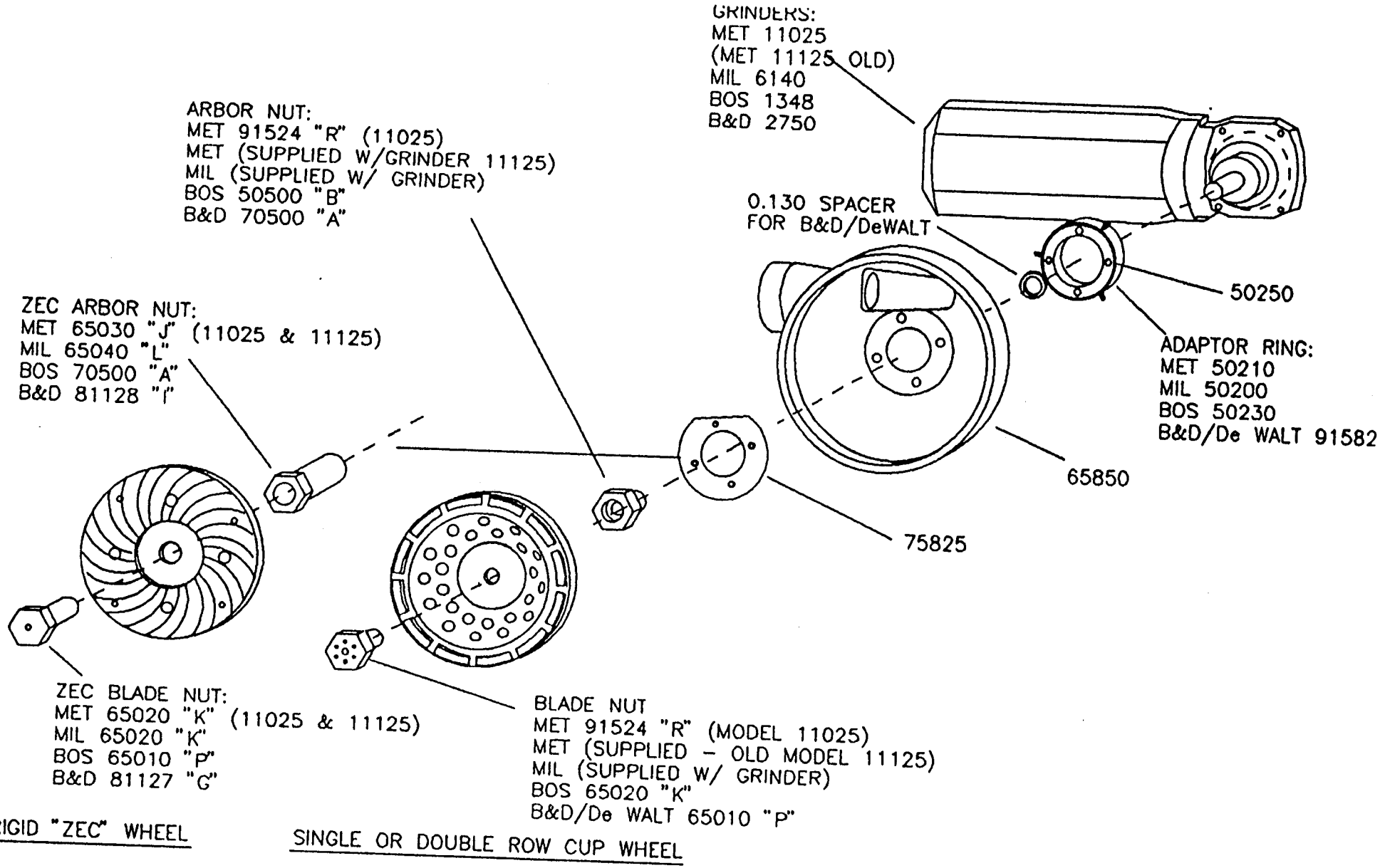
1 Place dust shroud and adaptor around the grinder arbor.
2 Hose nozzle should be at upper right (when looking down on grinder).
3 Tighten down the three (3) set screws on the adaptor ring.
4 Ensure the nozzle does not touch the handle mounting bolt. *Leave ¼" gap.*

B. ASSEMBLY OF HANDLE ONTO GRINDER

1 Align attachment holes on handle to the grinder holes.
2 Insert bolt, washer, and spacer. Spacer should be on the left hand side of the machine from a top view.
3 Tighten down firmly at desired location

C. ASSEMBLY AND REMOVAL OF BLADE

1 Using the wrench provided, or a 1½" box wrench, remove the blade nut.
2 Depress the spindle lock on the grinder to stop the spindle from rotating while tightening and loosening the blade nut.
3 Note: both the blade nut and arbor nut vary in length, depending on the type of wheel to be used.



* WARNING! METABO 11025 GRINDER IS NOT DESIGNED FOR "QUICK RELEASE". USE WRENCH TO REMOVE BLADE NUT.

DUSTLESS CONCRETE REPAIR EQUIPMENT

WARRANTY STATEMENT

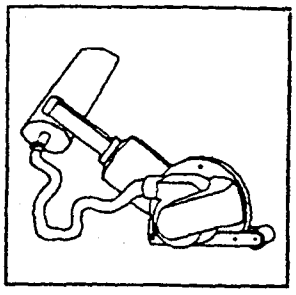
The manufacturer of this product warrants its products free from defects in material and workmanship. There is no other warranty expressed or implied. This warranty shall be effective for a period of 90 days from the date of purchase. ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE HEREBY DISCLAIMED.

Any part of the product that is found by the manufacturer to be defective in material or workmanship during the warranty period will be replaced at the manufacturer's discretion without charge to the owner for parts or necessary labor. THIS IS THE PURCHASER'S SOLE AND EXCLUSIVE REMEDY. This coverage is subject to the terms specified in this limited warranty statement. IN NO EVENT SHALL THE MANUFACTURER BE LIABLE TO PURCHASER FOR CONSEQUENTIAL DAMAGES.

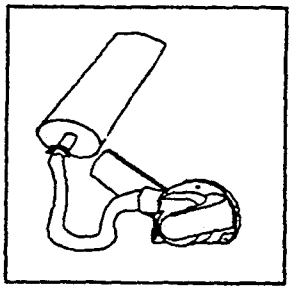
Subjecting the product to any of the conditions listed below will void this warranty:

A. Misuse, negligence, or accident.
B. Failure to operate or maintain the product in accordance with the Operating and Safety Manual furnished by the manufacturer.
C. Alterations or modifications without WRITTEN permission from the manufacturer.
D. Use of accessories which are not officially approved by the manufacturer in writing.

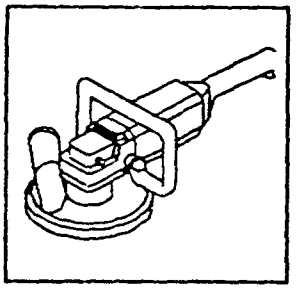
The manufacturer reserves the right to change or improve the design of the product without assuming any obligation to update any products previously manufactured. It is the customer's responsibility to make certain that the owner's registration card is properly filled out and mailed to the address on the registration card within ten (10) days from the date of purchase. If a failure occurs during the warranty period, the customer must deliver the product to an authorized dealer. Any and all transportation charges are to be borne by the customer.



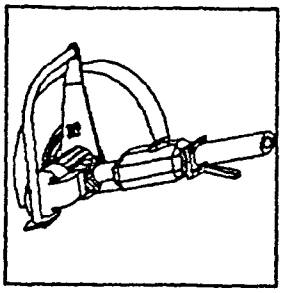
CracVAC



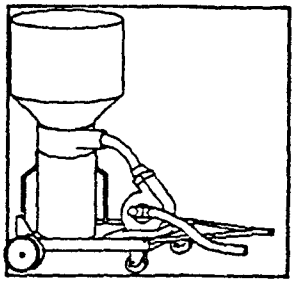
TucVAC



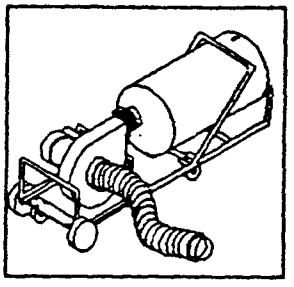
GrinderVAC



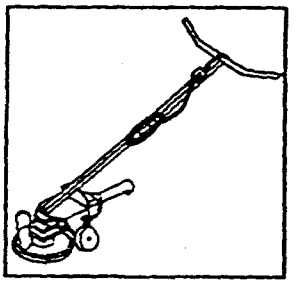
HS-100 Air Saw



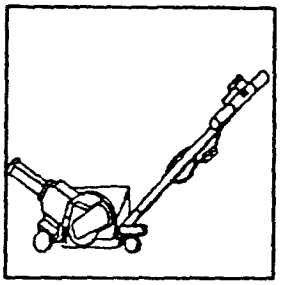
MaxiVAC



MiniVAC



GrinderVAC Dolly

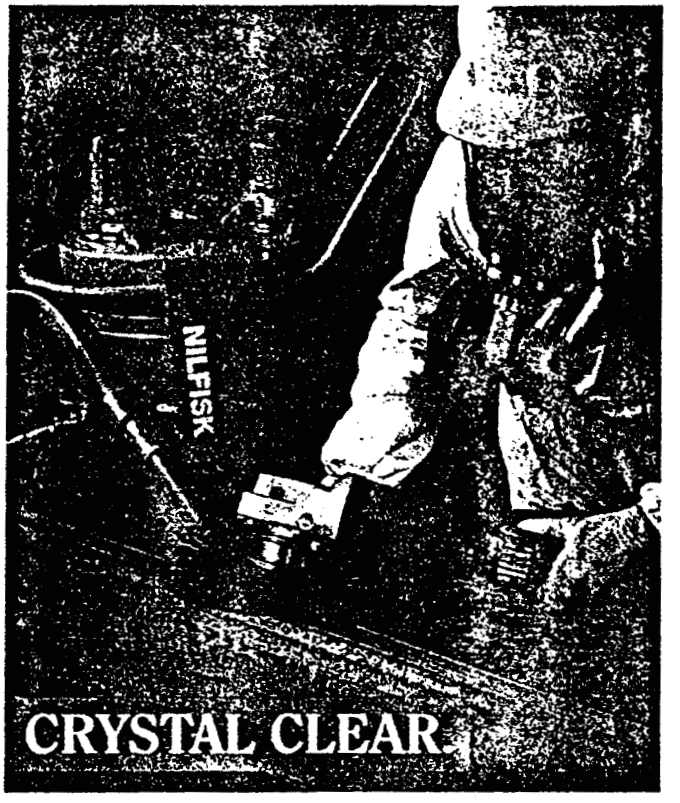


CracVAC Dolly

For Information of Purchasing any of our other fine SAWTEC Products, call 1-800-624-7832 or write:

SAWTEC - 11 High Street - Suffield, CT 06078

With Nilfisk Shielded Power Tool Systems



When safety in the work environment, time savings and proper surface preparation are critical, you don't want a lot of toxic or nuisance dust getting in the way. Nilfisk Shielded Power Tool Systems are a perfect combination of high-powered tools such as grinders, needle descalers, sanders, etc., and high efficiency collection vacuums. • The Nilfisk System is designed to pull dust away from the work area and directly into a HEPA-filtered vacuum for "dust-free" surface preparation. It's ideal for most surfaces including steel, concrete, fiberglass and composites, as well as specialized areas such as rivets, corners and detail work where blasting media is either too cumbersome or time consuming.

- *Full line of shielded power tools and vacuums (including compact and pneumatic)*
- *Keeps dust away from surface area for better efficiency*
- *Maintains virtually "dust-free" environment both indoors and out*

For more information and free literature write, or call:

1-800-NILFISK

NOTHING ESCAPES

NILFISK

Nilfisk of America, Inc., 300 Technology Drive, Malvern, PA 19355, Fax: (610) 647-6427

CIRCLE NO.111

Given to employee during closing cafeteria

12/3/97

Regional Safety Superintendent
- on site safety specialist -
- Mgr. Env. Hazards

Engineering Controls

@ Portland Bridge -

- Tried Cyclone Blower
2 sets of Barges - tried cyclone blowers blowing into employees on barges

Tried "Hydroblasting" - Substitute for grinding - took off green slime, but and just the skin surface -

Third way - tried wetting down the concrete - Gumming up the stems. Left ripples in the concrete made it worse - had to redo.

Looked at a HEPA system - Back Pack System
18 lbs. for pack itself. 18 lbs. for grinder.
Ergonomic wise and positions that ecs had to be in for grinding made this infeasible

couldn't find a method so talked with:
similar sampling at Portland. Decided on 1/2 face resp

was safety specialist on the Portland Bridge - were enclosed
areas than . over PEL
under 10x PEL
Used copus blowers w/ hoses 4

Administrative controls - (grinding done at night) to protect rest of ees
Full Face AP resp. w/ HEPA cartridges

About time when SEP came out. Invited State of Maine
consulting group to come down to sample. were using Tyvek suits

Job Rotation - not considered at that time.

Tyvek used on Portland
Coveralls
Rain suit

Adverse conditions - Forms had leaked
so a lot of paint & patch
Tide comes up real quick
Rubber roofing material will be used
so water doesn't get in while curing.
2 skews rather than 3
on East bound
on West bound

(continue) [illegible]

did some monitoring w/ HEPA
not all samples included x-ray diffraction

Tried a system they had seen. – Shop Vac – attachment at the head
wouldn't work
had plastic piece that wouldn't hold up to wear

Operations Supply – Purchase
Black & Decker – May checked with Black & Decker
Mikata
Roto Pana

on Bridge deck tried to keep everyone up wind (subs, etc.)
from grinding.
(also tried Back Packs – afraid of soft tissue injuries)

NH Brag & Sons in Bangor
approached B+D did not have
in Product Development
DeWalt Corp. bought out B+D – are still
pursuing.

Dust Hogs for Lead fumes on Portland Bridge
Limits Air arcing + lance rods
10 ft. long.
Needle gun w/ Hepa Vac attachments

U.S. Department of Labor

Occupational Safety and Health Administration
Concord Area Office
279 Pleasant Street, Suite 201
Concord, NH 03301
(603) 225-1629
(603) 225-1580 FAX

December 3, 1997 Reply to the Attention of: 300444635

Attn:

Pittsfield, ME 04967

Dear

Enclosed you will find the sampling results from our recent inspection of your workplace.

Please note the following exposures exceed the OSHA permissible exposure limits (PEL):

Both employee air sampling tests performed on 10/16/97 during grinding of the stems and heads below the westbound lanes of the new Dover Bridge.

Please note 1910.20 requires that you maintain all medical and exposure records such as these sample results for at least 30 yr. You must also make the results available to employees or former employees and notify employees annually of their right of access to these results. These requirements are discussed in an enclosed pamphlet.

Should you have any questions concerning this information do not hesitate to contact us at the above address.

Given to employer

OSHA COLLECTED AIR SAMPLING RESULTS

SCREENING SAMPLES *				
DATE/TIME	EMPLOYEE-JOB	CHEMICAL	RESULTS	LIMITS
10/14/97	Bulk from Bridge Deck	Silica (Crystalline Quartz)	20.0%	N/A
10/16/97	Bulk from "float"	Silica (Crystalline Quartz)	20.0%	N/A

FULL SHIFT SAMPLING **				
DATE/TIME	EMPLOYEE-JOB	CHEMICAL	RESULTS	LIMITS ***
10/16/97		Respirable Silica	2.61 mg/m^3	0.721 mg/m^3
10/16/97		Respirable Silica	1.58 mg/m^3	0.821 mg/m^3

** RESULTS OF FULL SHIFT SAMPLING ARE EXPRESSED AS AN 8-HR TWA
***THE LIMITS GIVEN ARE THE DERIVED PERMISSIBLE EXPOSURE LIMITS BASED ON THE PERCENTAGE OF SILICA IN EACH OF THE SAMPLES COLLECTED

$$PEL = \frac{10\ mg/m^3}{\%\ silica + 2}$$

TWA-time weighted average
PEL-permissible exposure limit-unless otherwise specified it is expressed as an 8 hr TWA
MG/M3-milligrams per cubic meter

From:
To:
Date: Tuesday, October 21, 1997 9:27 am
Subject: Phone message from. . of
Phone: 749-6801

[*] Telephoned [*] Please call
[ ] Will call again [ ] Returned your call
[ ] Wants to see you [ ] Came to see you
[ ] Urgent

SAE = .19

~~Wednesday~~

Samples back from pretty low

Total (Resp.)
2.5 mg/m³

Quartz
Cristobalite
Tridymite } Non-detectable

Air Sample!

Quartz 0.263 mg/m3
Cristobalite less than 0.012 mg/m3
Tridymite " " 0.012/m3

BULK – 0.4% Quartz
mg/kg < 0.2% Cristobalite
< 0.2% Tridymite

Fit Test on Qualitative Irritant Smoke

"Reading Rainbow"

Thurs. Sample results Tomorrow

This week mostly stripping this week

The United States Department of Labor
Occupational Safety and Health Administration

Establishment Search Inspection Detail

Definitions

Warning: *The following inspection has not been indicated as closed. Please be aware that the information shown may change, e.g. violations may be added or deleted.*

Inspection 300444635

Inspection Information			
Nr: 300444635 Report ID: 0111700 Open: 1997-10-14 CSHO: S5753/I			
		Nr Employees: 25	
		Nr Controlled: 1500	
Dover , NH 03820		Union Status: NonUnion	
SIC: 1611/Highway Street Construction		LWDI Rate:	
Mailing: , Pittsfield , ME 04967			
Inspection Type:	Complaint	Employees Covered:	2
Scope:	Partial	Advance Notice:	N
Ownership:	Private	Hours Spent:	
Safety/Health:	Health	Close Conference:	1997-10-16
National Emphasis:	SILICA	Close Case:	
Opt Report Nr:	227		

Related Activity:	Type	ID	Date	Safety	Health
	Complaint	200606291	1997-10-09		Yes

The United States Department of Labor
Occupational Safety and Health Administration

Establishment Search Inspection Detail

Definitions

Inspection 301662417 -

Inspection Information			
Nr: 301662417 Report ID: 0111100 Open: 1997-08-04 CSHO: P2807/I			
		Nr Employees: 73	
		Nr Controlled: 1189	
South Portland , ME 04106		Union Status: NonUnion	
SIC: 1629/Heavy Construction, Nec		LWDI Rate:	
Mailing: , Pittsfield , ME 04967			
Inspection Type: Complaint		Employees Covered: 73	
Scope: Partial		Advance Notice: N	
Ownership: Private		Hours Spent: 15.0	
Safety/Health: Health		Close Conference: 1997-08-15	
Planning Guide: Health-Construction		Close Case: 1997-08-15	
Opt Report Nr: 1297			
Related Activity:	Type	ID	Date	Safety	Health
	Complaint	202199378	1997-07-29		Yes
	Inspection	301662391	1997-08-04		

Inspection 300502317 -

Inspection Information	
Nr: 300502317 Report ID: 0112600 Open: 1997-06-23 CSHO: V9039/C	
South Hadley , MA 01075 SIC: 1622/Bridge, Tunnel, & Elevated Highway Mailing: , Pittsfield , ME 04967	Nr Employees: 38 Nr Controlled: 2000 Union Status: NonUnion LWDI Rate:
Inspection Type: Unprog Rel Scope: Partial Ownership: Private Safety/Health: Safety Planning Guide: Safety-Construction Opt Report Nr: 704	Employees Covered: 38 Advance Notice: N Hours Spent: 114.0 Close Conference: 1997-07-31 Close Case: 1997-10-08

Optional Information:

Type	ID	Value
N	01	300502309
N	14	FOCUS,C,1

Related Activity:

Type	ID	Date	Safety	Health
Referral	200690592	1997-06-23	Yes	

	Violation Summary					
	Serious	Willful	Repeat	Other	Unclass	Total
Nr Violations				2		2
Penalty Amount				9500.00		9500.00
FTA Amount						

Violation Items

ID	Type	Standard	Issuance	Abate	Curr$	Init$	Fta$	Contest	Evt
1 01001	Other	19260020 B02	1997-09-02	1997-09-05	7000.00	7000.00			I
2 01002	Other	19260502 D15	1997-09-02	1997-09-05	2500.00	2500.00			I

Payment and Administrative Actions

Payments

163 Nr	Type	Date	Penalty	FTA	Origin	Balance
839061025	Payment	1997-10-08	9500.00			B

Inspection 127379600 -

Inspection Information	
Nr: 127379600 Report ID: 0352430 Open: 1997-01-24 CSHO: V7692/I	
	Nr Employees: 165
	Nr Controlled: 1200
Baltimore , MD 21230	Union Status: NonUnion
SIC: 1629/Heavy Construction, Nec	LWDI Rate:
Mailing: , Baltimore , MD 21226	
Inspection Type: Complaint	Employees Covered: 70
Scope: Partial	Advance Notice: N
Ownership: Private	Hours Spent: 29.0
Safety/Health: Health	Close Conference: 1997-01-24
Local Emphasis: LEADCON	Close Case: 1997-06-18
Opt Report Nr: V76920247	

Optional Information:

Type	ID	Value
S	10	05/02/97

Related Activity:

Type	ID	Date	Safety	Health
Complaint	200949071	1997-01-21		Yes
Referral	902195726	1997-01-21		Yes

Violation Summary

	Serious	Willful	Repeat	Other	Unclass	Total
Nr Violations				3		3
Penalty Amount				906.00		906.00
FTA Amount						

Violation Items

ID	Type	Standard	Issuance	Abate	CurrS	InitS	FtaS	Contest	Evt
1 01001	Other	19260062 I03 II	1997-04-10	1997-04-15	906.00	1812.00			I
2 02001	Other	50405 C	1997-04-10	1997-04-17					I
3 02002	Other	50406 A 1	1997-04-10	1997-04-15					I

Payment and Administrative Actions

Payments

163 Nr	Type	Date	Penalty	FTA	Origin	Balance
903031532	Payment	1997-06-16	906.00			

Inspection 122245129 -

Inspection Information	
Nr: 122245129 Report ID: 0213100 Open: 1995-11-20 CSHO: C1408/C	
	Nr Employees: 31
	Nr Controlled: 1500
Schuylerville , NY 12871	Union Status: NonUnion
SIC: 1622/Bridge, Tunnel, & Elevated Highway	LWDI Rate:
Mailing: , Pittsfield , ME 04967	
Inspection Type: Fat Cat	Employees Covered: 31
Scope: Complete	Advance Notice: N
Ownership: Private	Hours Spent: 134.5
Safety/Health: Safety	Close Conference: 1995-12-07
Opt Report Nr: 1077	Close Case: 1996-07-16

Related Activity:	Type	ID	Date	Safety	Health
	Accident	360365571	1995-11-20		

	Violation Summary					
	Serious	Willful	Repeat	Other	Unclass	Total
Nr Violations	3					3
Penalty Amount	15000.00					15000.00
FTA Amount						

Violation Items

ID	Type	Standard	Issuance	Abate	CurrS	InitS	FtaS	Contest	Evt
1 01001	Serious	5A0001	1996-04-08	1996-04-11	5000.00	5000.00			
2 01002	Serious	19260021 B02	1996-04-08	1996-04-11	5000.00	5000.00			
3 01003	Serious	19260556 B02 VI	1996-04-08	1996-04-11	5000.00	5000.00			

Accident Investigation Summary

Summary Nr: 170020465 Event: 1995-11-20 Lift Tipped Over & Submerged Employee

Employee (deceased) was in the basket & tied off to the basket of an aerial lift over water when the lift tipped over & subnerged the employ- ee, boom & basket in approx. 20 ft. of water. employee was transported from accident site to the hospital in cardiac arrest & died later after life support was removed.

	Inspection	Age	Sex	Degree	Nature	Occupation
1	122245129	40	M	Fatality	Asphyxia	

Payment and Administrative Actions					
Empr Phone: 207-487-331					
Payments					
163 Nr	Type	Date	Penalty	FTA Origin	Balance
847034279	Payment	1996-05-02	15000.00		B

Inspection 119572345 -

Inspection Information			
Nr: 119572345 Report ID: 0352430 Open: 1995-05-09 CSHO: A8711/L			
		Nr Employees: 19	
		Nr Controlled: 1157	
Baltimore , MD 21224		Union Status: NonUnion	
SIC: 1629/Heavy Construction, Nec		LWDI Rate:	
Mailing: , Baltimore , MD 21226			
Inspection Type:	Prog Related	Employees Covered:	19
Scope:	Complete	Advance Notice:	N
Ownership:	Private	Hours Spent:	15.3
Safety/Health:	Safety	Close Conference:	1995-06-19
Planning Guide:	Safety-Construction	Close Case:	1995-11-16
Opt Report Nr:	A87110605		

Optional Information:	Type	ID	Value
	N	01	119521227
	S	10	09/22/95 FOD ~

	Violation Summary					
	Serious	Willful	Repeat	Other	Unclass	Total
Nr Violations				1		1
Penalty Amount						
FTA Amount						

Violation Items									
ID	Type	Standard	Issuance	Abate	Curr$	Init$	Fta$	Contest	Evt
1 01001	Other	19260550 A01	1995-08-29	1995-09-01		1400.00			I

Payment and Administrative Actions
Empr Phone:

Inspection 108775149 -

Inspection Information			
Nr: 108775149 Report ID: 0111700 Open: 1995-01-23 CSHO: B8212/C			
		Nr Employees:	20
		Nr Controlled:	250
Bow , NH 03304		Union Status:	NonUnion
SIC: 1542/Nonresidential Construction, Nec		LWDI Rate:	
Inspection Type:	Referral	Employees Covered:	3
Scope:	Partial	Advance Notice:	N
Ownership:	Private	Hours Spent:	18.0
Safety/Health:	Safety	Close Conference:	1995-01-27
Planning Guide:	Safety-Construction	Close Case:	1995-04-27
Opt Report Nr:	2052		

Related Activity:	Type	ID	Date	Safety	Health
	Referral	901705434	1995-01-23	Yes	

	Violation Summary					
	Serious	Willful	Repeat	Other	Unclass	Total
Nr Violations				2		2
Penalty Amount				8000.00		8000.00
FTA Amount						

Violation Items

ID	Type	Standard	Issuance	Abate	Curr$	Init$	Fta$	Contest	Evt
1 01001	Other	19260021 B02	1995-02-08	1995-03-28	4000.00	4000.00			I
2 01002	Other	19260550 A01	1995-02-08	1995-02-14	4000.00	4000.00			I

Payment and Administrative Actions

Empr Phone:

Administrative Actions

I	Area Office Interest	1995-04-17	20.00
1	Area Office Letter	1995-04-17	10.00

Payments

163 Nr	Type	Date	Penalty	FTA	Origin	Balance
842038473	Payment	1995-04-27	8030.00			B

Inspection 119526432 -

Inspection Information	
Nr: 119526432 Report ID: 0352440 Open: 1994-11-22 CSHO: M3373/L	
	Nr Employees: 50
	Nr Controlled: 1100
Baltimore , MD 21230	Union Status: NonUnion
SIC: 1622/Bridge, Tunnel, & Elevated Highway	LWDI Rate:
Mailing: , Baltimore , MD 21226	

Inspection Type:	Fat Cat	Employees Covered:	2
Scope:	Partial	Advance Notice:	N
Ownership:	Private	Hours Spent:	32.5
Safety/Health:	Safety	Close Conference:	1995-01-10
Planning Guide:	Safety-Manufacturing	Close Case:	1995-03-14
Opt Report Nr:	M33730155		

Optional Information:

Type	ID	Value
S	10	02/21/95 FOD ~

Related Activity:

Type	ID	Date	Safety	Health
Accident	361017858	1994-11-22		

Violation Summary

	Serious	Willful	Repeat	Other	Unclass	Total
Nr Violations				5		5
Penalty Amount				590.00		590.00
FTA Amount						

Violation Items

ID	Type	Standard	Issuance	Abate	Curr$	Init$	Fta$	Contest	Evt
1 01001	Other	19100180 H01 I	1995-01-25	1995-01-30	320.00	3200.00			I
2 01002	Other	19100180 H01 II	1995-01-25	1995-01-30	270.00	2700.00			I
3 02001	Other	19100178 A04	1995-01-25	1995-01-30					
4 02002	Other	19100180 H03 IA	1995-01-25	1995-01-30					
5 02003	Other	19100180 D03 III	1995-01-25	1995-01-30					

Accident Investigation Summary
Summary Nr: 170833438 Event: 1994-11-22 Employee Pinned When Collapsed Boom Falls
Employees #1 and a coworker were assigned to unload a clark c-500-ys80 rubber-tired forklift from a flatbed trailer. a jlg 14000 boom truck was set up beside the trailer to pick up the forklift and set it on the ground. the boom truck, with outriggers down, was set at a 21 foot boom radius with 40 feet 5 1/2 inches of boom extended. employee #1, the truck operator, estimated but did not confirm that the forklift's weight was 6,000 pounds. its actual weight was not determined. the manufacturer's load chart for this set-up indicates a total 'below-the-boom capacity' rating of 6,000 pounds. the actual 'below boom load weight' was calculated as 13,680 pounds, an overload of 128 percent. the boom mount bolts failed and the boom fell toward the rear of the truck, pinning employee #1 between the rigging box and the operator's stand. he sustained a bloody nose. employee #1, who was wearing a hard hat, had 18 years experience with boom trucks and had previously completed a similar lift. the boom truck was equipped with a boom overload system, which the employees relied on to help prevent an overload. employee #1 said that this system, which has a history of malfunction and repair, did not function. the employees had received crane training. the accident can be attributed to crane overload and failure of the backup overload system.
Review: E Keywords: collapse,pinned,boom truck,overloaded,nose,construction,bolt,work rules,equipment failure

	Inspection	Age	Sex	Degree	Nature	Occupation
1	119526432	62	M	Non Hospitalized	Bruise/Contus/Abras	Crane Tower Operators

Payment and Administrative Actions					
Empr Phone:					
Payments					
163 Nr	Type	Date	Penalty	FTA	Origin Balance
903046696	Payment	1995-03-16	590.00		

[Comments & Info | OSHA Home Page | OSHA-OCIS | US DOL Web Site | Disclaimer]

Project Activity/Hazard Analysis Plan

Date 7-21-97		Cianbro job no,	116026	Beginning Budget(hrs)	
Originator		Cianbro code		(-) Hours used to date	
				(=) Balance of hours available start of shift	

Scope of Work: Finishing concrete / Placing concrete Paint & Patch at various locations on Bridge - Stems - Caps & Deck

Competent Person:

Employee Review

Superintendent:		Foreman:	
Project Engr:		Safety Splst:	

Crews:

Print name	Signature	Social Security #

Emergency Phone Numbers / Emergency Planning

		Fire: 911		First Aid:	SAFETY/911
Rescue: 911		Ambulance	911	Police:	911

Escape Route/Assembly Point: Office Trailers

Special Conditions

(Most Serious Hazards, Deadlines)

Breathing sealer, Breathing in form oil mist, Breathing silica dust and or elec shock from extension cords or flying objects from not using guards on grinders.

Activity Goals

(Safety, Schedule,)

No Injuries

Start date 7-21-97 Completion date

QA/QC

Quality, Compliance Standards)

Inspections will be done regularly by the State of NH.

Special Instructions

(Specific/Special Crew Member(s) Instructions)

Always wear respirators when grinding
Always wear gloves when handling concrete
Always wear double face protection when grinding or near a person grinding
Keep elec cords out of water
Handle operation of motor boats in a professional manner

Specific Work Procedure	
List safety preparations first.	
(Identify Step By Step, How the Activity Will Be Performed)	
1	Placing concrete - wear gloves at all times Use your better
	Judgement so That we have no Back STrains. We will Be
2	using A pump Truck or concrete Buckets so be careful
	for pinch points or Back STrains when handling
3	The concrete Buckets Think Before reacting to any situation.
4	
	Finishing concrete
5	
	Always wear your safety glasses & double Eye protection
6	When vibrating concrete when pulling concrete with Rake
	or shovel, be aware of potential Back STrain.
7	When pointing & patching Always wear Glove preferably
	Rubber ones. When grinding Always wear your respirator
8	& long sleeve shirt or Tyvek suit to prevent silica dust from
	staying on your clothes Use caution when using boats
9	or staging on Boats making sure staging is secured on Boats
	& Boat are secured. Pay Attention to Tides so That
10	staging does not get hucked up under the Boats or deck causing
	A pinch point Most of our work will be off a Barge
11	or Boat when we are pointing & patching. The twisting pointing
	or patching can be handled without many hazards whenever
12	grinding [redacted]
	Therefore keep grinders away from your Body & make sure
13	no one is around you so that danger of any flying
	objects aren't exist. Always make sure Ladders, Floats,
14	staging & Boats Are secured so That There is no danger
	of falling with A grinder in your hands. When finish
15	Concrete By (Rubbing) make sure your tools are cleaned
	& your Burlap & rubber of after using. Most of our work
16	will finish off with house keeping cleaning our tools, work
	Areas & ourselves before leaving the jobsite
17	
18	
19	
20	
21	
22	

Small Tools		Consumables		Equipment	
QTY	ITEM	QTY	ITEM	QTY	ITEM
2	9' Garders	5	5 gal Fresh water	4	Floats
6	margl trowels	1	80# Type II Portland cement	2	small bathtubs (Boats)
1	Buckets	1	80# white cement	1	lg Bathtubs (Boat)
4	sets of staging	1	50# white sand	1	res 16' Boats
4	Floats	1	55 drum sand		
2	small Bathtubs (Boats)				
1	lg Bathtubs (Boats)				
1	res Boat				

PERMANENT MATERIALS

List here or attach Cianbro requisition

QTY	ITEM	QTY	ITEM	QTY	ITEMS SUPPLIED BY FMC

GROUND ASSURANCE PROGRAM			
	White (January-March)		Green (April-June)
✓	Red (July-September)		Orange (October-December)

PERMITS/ SPECIAL TRAINING/LICENSES			
Dig Safe		Scaffold Permit	
Confined Space Permit		Flammable Liquids	
Burning Permit		Qualified Equipment Operator(s)	
Fire Watch		Electrical/Mechanical Lock Out	
MSDS Needed	✓	Haz Com Training	
		Lead Training	

TURN IN ALL PERMITS TO · SAFETY AT THE END OF EACH SHIFT.

SAFETY EQUIPMENT CHECK LIST			
Hard Hat	X	Respirator (Type: Half Face negative pressure Air purifier)	✓
Steel Toed Boots	X	Respirator Filter (Type: High Efficiency filters 2097)	✓
Gloves (Type: Drivers, Kevlar, Rubber, Anti-Vibration)		Air Horn AO R573	
Cut resistant glove	x	Goggles	
Face Shield	✓	Tie Off Straps	✓
Safety Glasses	X	GFCI Receptacle(s)	✓
Rubber Boots		Fire Blankets	
Rubber Gloves	✓	Body Harness/Lanyards	✓
Fire/Safety Vest		Ring Buoy	
Ice Vest		Hearing Protection	✓
Life Vest	✓	Barricade Tape	
Tyvek Suit(s)	✓	Fall Blocks	✓
Rain Suit(s)		Signs	
Knee Pads	✓	Retrieval System	
Throw Bag(s)		Life Boat	✓
Radios		Air Monitor(s)	
Lockout Tags		Confined Entry Tags	
Copus Blowers/Fans		~~HEPA~~ Vacuum(s) Shop	✓

Remember:

- The elimination of hazardous conditions is our number one priority.
- Use personal protective equipment (PPE) as a last resort.

HAZARD ANALYSIS IDENTIFICATION AND SOLUTIONS
Be creative - Eliminate hazardous conditions FIRST. Provide personal protective equipment SECOND.
Hazard - OSHA FOCUS - Fall Prevention/Protection: Ladder & Stagies
Solution: (What does crew anchor to? ... 5000 # cap'y.?) Ladder/ make sure ladder is secured stagy / make sure stagy is secured Especially when on one of the Boats Body Harness / needed whenever over 10'
Hazard - OSHA FOCUS - Electrical Shock: Elec cords
Solution: use GFI AT ALL times & keep cords out of water
Hazard - OSHA FOCUS - Caught in, between or struck by objects: When using floats or BATTERS when using grinders
Solution: When using Floats use caution so that your fingers are not caught Between Boat & float etc when using grinders Be care for yourself & any fellow Employee
Hazard - OSHA FOCUS - Falling objects/work overhead: working on caps & working under Boats
Solution: when working on caps be careful not to drop Anything on anybody when working on stems pay attention to anybody working overhead & change work area to prevent anything from falling on you or anyone on the crew
Hazard - OSHA FOCUS - Access to and from work areas: working on caps working on floats
Solution: when working on caps make sure ladders Are secured when working on floats ~~make sure~~ use Boats & make sure you Awearing your life vests
Hazard - FOCUS - Access to and from work areas:
Solution:

HAZARD ANALYSIS

CONTINUED

Hazard:	Handling concrete
Solution:	Alway wear Gloves
Hazard:	Grinding concrete
Solution:	Alway wear respirators / Double face protection / long sleeve shirts and or A Tyvek suit.
Hazard:	No body is to work alone on any floats or boats
Solution:	There will be A buddy system & Access to A motored Boat At all times
Hazard:	Stove & Grinders
Solution:	The stove will match The RPM of The Grinders
Hazard:	
Solution:	
Hazard:	
Solution:	
Hazard:	
Solution:	
Hazard:	
Solution:	

MATERIAL SAFETY DATA SHEETS (MSDS)	
* MSDS Book Location(S):	in office Trailers
* For Extremely Hazardous Materials, extensive training is required.	
HAZARDOUS MATERIAL:	
Symptoms:	
Target Organs:	See MSDS for Any
Route of Entry:	Product Being Used
PPE:	
First Aid:	
HAZARDOUS MATERIAL:	
Symptoms:	
Target Organs:	
Route of Entry:	
PPE:	
First Aid:	
HAZARDOUS MATERIALS:	
Symptoms:	
Target Organs:	
Route of Entry:	
PPE:	
First Aid:	
HAZARDOUS MATERIAL:	
Symptoms:	
Target Organs:	
Route of Entry:	
PPE:	
First Aid:	
Notes	

SAFETY PLANNING CHECKLIST

The *ELIMINATION* of hazardous conditions should be the *NUMBER* ONE PRIORITY work activity. Personal protective equipment should be viewed as a last resort. Eliminating hazards not only creates a safer work environment for our employees, it also results in less wasted motion/time and an increase in productivity.

1.	Emergency Planning	14.	Equipment
	-Injury-Fire-Security		-Machinery,Tools-Manlift
	-Labor Relations		-Training, Daily Inspections
			-Excavation and Trucking
2.	Hazardous Materials/Waste		(Competent Person)
	-Contingency Plan		-Crane Lift List Charts-Proper
	-Storage-Labeling-Training		Barricading-Competent Tag Person
3.	Orientation	15.	Housekeeping
	-New Employee		-Trash Removal/Disposal
	-Visitor-Subcontractor		
		16.	Confined Space Entry
4.	Environmental		-Monitoring-Trained Hole Watch
	-Noise Monitoring		-Established Rescue Procedure
	-Air Sampling		
	-Paint, Soil ,Water Sampling	17.	Lockout/Tagout Procedure
5.	Respiratory Protection	18.	Sandblasting Waterblasting/Painting
	-Supplies		
	-Medical Approvals, PFT's, Fit Test	19.	Rigging Inspection
			-Competent Person-Nylon/Steel Slings
6.	Hearing Protection		-Chainfalls/Come Alongs
	-Training		-Specialty Equipment/Devices
7.	Lead/PCB's	20.	Welding/Burning
	-Detailed Activity Plan Required		-Fire Permits-Trained Fire Watch
	-Training-Blood Tests		-Fire Extinguishers/Blankets/Screens
	-Refer to Lead Bulletin		-Personal Protective Clothing
			--Mechanical/Local Ventilation
8.	Silica Protection		
	-Water	21.	Eye Protection
	-Fans		-Training
	-PPE		
	-Air Monitoring	22.	Hand/Finger/Limb Protection
9.	Asbestos	23.	Cold/Heat Protection/Stress
	-Subcontractor Abatement Only		
		24.	Chainsaw/Cut Saw Protection
10.	Gases		
	-Oxygen Deficiency-Nitrogen	25.	Compressed Air
	-Carbon Monoxide-H2S-SO2		-Equipment/Tools-Airlines
	-Chlorine-Explosive Gases		-Whipchecks-Check Valves
			-Equipment Training
11.	Fly Ash		
	-Copy of Recent Sample Analysis	26.	Demolition
12.	Electrical	27.	Diving
	-Assured Grounding-GFCI		-Appropriate People Notified
	-Powerlines-Labeled Breakers		-Checklist Complete-Dive Plan
	-Detailed Activity Plan Required		
	-Send copy to Safety Dept.	28.	Employee Facilities
			-Drinking Water-Toilet/Wash Station
13.	Fall Prevention/Protection		Eating/Smoking Areas
	-Scaffolding-Access-Ladders		
	-Barricading of Floor and Wall	29.	Stretching Program
	Openings-Fall Blocks-Ratlines		
	-Handrails	30.	Safety Meeting Training
	-Send copy of Plan to Safety Dept.		
		31.	Subcontractor Considerations

Project Specific Lead Protection Plan		
1.	Description of each activity emitting lead:	
	a. Equipment Used:	
	b. Material Involved:	
	c. Controls in Place:	
	d. Specific Employee Responsibilities:	
	e. Equipment Operating Procedures:	
	f. Equipment Maintenance Practices:	
2.	Specific Eng./Administrative Controls & Studies Selected:	
	a. Ventilation:	
	b. Filtering:	
	c. Containment:	
	d. Respirators:	
	e. Administrative:	
3.	Air Monitoring History (Past/Present):	
4.	Work Practice Program:	
	a. Hygiene Plans:	
	b. Protective Clothing/Equipment:	
	c. Housekeeping Plans:	

Daily Activity Plan

Date: 7-2-97		Job No.		Beginning Budget (hrs)	
Originator		Code		(-) Hours used to date	
				(=) Balance available start of shift today	

Activities / Instructions:

Place concrete : Use care when bent over handling concrete
Wear Gloves at All Times
Use your own judgement when pulling concrete
not to have any BACK Injuries
Finish concrete : Double face protection at all times when using grinders
Respirator at all times
Long sleeve shirts or Tyvek suit (white suite)
at All Times
Gloves when Handling concrete

Small Tools, Materials and Equipment:				Items supplied by OTHERS	
1.	Buckets	8.	Ladders	1.	Stakes
2.	Magic Trowels	9.	Fresh water	2.	
3.	Staging	10.	Grinders	3.	
4.	Boots	11.	Diamond Blades	4.	

Hazards/Special Safety Requirements:

Retarder for concrete
Sealer for concrete
Form oil for forms

Daily Check List	Yes	No	Hazards	yes	No
Lockouts		✓	Double Eye	✓	
Dig Safe		✓	Hand/Finger	✓	
Fire Permit		✓	Fall Protection	✓	
Rigging Inspection		✓	Housekeeping	✓	
Systems Protected		✓	Confined Space		✓
Area Posted		✓	Communication	✓	
Envir. Permits		✓	MSDS Review	✓	

Crew Sign-Off:

Silica - purchased video
CSI

Have Medical Director

In pittsfie
on ... [illegible]

Reg.

Lead work in Boilers
Blood leads
Developed a plan for lead issue
Annual Blood lead screening
~200 people will be
in this prog. as
identified by Roger

Will also include
Med surv. for silica
arsenic
cadmium

Lead & silica - routine program

Pulmonary Function
Tests provide

Chest X-ray No

Irritant Smoke only - Qual!
not
Quant.

Recently purchased a second
fit test unit.
QNFT done yearly
QLFT done in field

6 months for lead

No Chest x-rays done currently for silica exposed ees
Med Dir has copy (Amadio?)
Haven't started

Effluent Limits
30 days for Plan

SEP
Rec'd Aug 16 1996
in Bangor

FAX COVER SHEET

CORPORATE SAFETY/HUMAN RESOURCES

FAX

Deliver to J — OSHA —

Fax numbe

From _____ Ext. _____

Time 0820 a.m./p.m. Date 11-5-97

Transmitting 6 page(s) including this cover sheet.

If transmission fails, call (207) 487-3311. Thank you!

Message ATTACHED ARE COPIES OF THE CONCRETE MIX DESIGNS FOR THE PORTLAND BRIDGE PROJECT AND DOVER BR. YOU ASKED FOR. SHOULD YOU HAVE ANY QUESTIONS PLEASE CALL KNOWLEN AT OUR OFFICE IN PITTSFIELD. THANK YOU,

BUILDING A BETTER FUTURE

is an employee-owned heavy civil and industrial construction company headquartered in Pittsfield, Maine, with regional offices in Pittsfield (Maine), Bloomfield (Connecticut), and Baltimore (Maryland). Founded in 1947 by Cianchette brothers , is one of the most diversified open-shop companies in Maine with gross annual sales approaching $150 million and employs an average of 1,400 people in the northeastern United States.

In 1994, received the Governor's Award for Business Excellence. The award was given based on achievements in customer and employee satisfaction, quality service, and safety. Our team is committed to the dignity and respect of all our stakeholders—employees, clients, and the communities in which we operate—becoming more than a part of the economy by taking an active role in the betterment of our communities.

Construction and maintenance for heavy industry, bridge, power plants, marine facilities, locks, and dams • Metal fabrication & coatings • Nuclear plant outages and maintenance • Commercial building and construction management.

AN EQUAL OPPORTUNITY EMPLOYER

BLUE ROCK INDUSTRIES

FACSIMILE TRANSMITTAL COVER SHEET

WESTBROOK Headquarters
58 Main Street
Westbrook, ME 04092
207-854-2561
1-800-439-2561
Fax: 207-854-2539

LEEDS
Route 106
Leeds, ME 04263
207-933-4450
1-800-564-4450
Fax: 207-933-4887

SIDNEY
Lyons Road
Sidney, ME 04330
207-547-3311
1-800-974-0294
Fax: 207-547-3668

STONE CENTER
737 Spring Street
Westbrook, ME 04092
207-772-6770
1-800-439-2561
Fax: 207-828-0723

SHOP
700 Spring Street
Westbrook, ME 04092
207-774-5669
1-800-439-5669
Fax: 207-774-8589

Fax to #:

Date: 10/17/97

To:

From:

Message:

Miss designs for
Port / So. Portland bridge
project.

Total pages faxed including this cover sheet 4

Please call the originating location indicated above if you experience any problems with this transmission. Thank You.

CONCRETE MIX DESIGN

BLUE ROCK INDUSTRIES — WESTBROOK, MAINE

Mix W-1053
Date 9/22/95

SURFACE DRY AGGREGATE BATCH — 27 C.F.

Cement Factor 7.0 Bag

Maximum Size Aggregate 3/4

ITEM		Weight
Cement (Type ______)		658
Sand		1219
3/8" Crushed Stone		430
3/4" Crushed Stone		1210
1/4" [redacted]" Crushed Stone		86
A. E. A.	(DAREX II)	6.6 oz.
W. R. A.	(WRDA-HYCOL)	19.7 oz.
	(DARACEM-100)	79.0 oz.
	(D.C.I.)	4 GAL.
Water (gallons)	31.6	263

Unit Weight of Aggregate

Project

Signed

Chief Engineer

CONCRETE MIX DESIGN

CMD	WM54
Date	11/30/95

BLUE ROCK INDUSTRIES – WESTBROOK, MAINE

SURFACE DRY AGGREGATE BATCH = 27 C.F.

Cement Factor 7.0 Bag Maximum Size Aggregate 3/4"

ITEM	Weight	Actual Weight of Aggregate
Cement (Type)	526	
Sand	1219	
3/8 Crushed Stone	430	
3/4" Crushed Stone	1210	
1/4" - [redacted]" Crushed Stone	86	
A. E. A. Darex II	6.6 oz.	
W. R. A. (W.R.D.A.-Hycol)	19.7 oz.	
Daracem 100	79.0 oz.	
D.C.I.	4.0 gals.	
Water (gallons) 31.6	263	
Fly Ash	132 lbs.	

Signed

Project:

CONCRETE MIX DESIGN

BLUE ROCK INDUSTRIES – WESTBROOK, MAINE

CMD	W-1063
Date	4/15/99

SURFACE DRY AGGREGATE BATCH – 27 C.F.

Cement Factor 6.75 Bag Maximum Size Aggregate 3/8

ITEM	Weight	Accum. Weight of Aggregate
Cement (Type)	635	
Sand	1217	
1/2" Crushed Stone	863	
3/4" Crushed Stone	866	
1 1/2" Crushed Stone		
A. E. A. (DAREX II)	4.5 oz.	
W. R. A. (W.R.D.A.-HYCOL)	19.1 oz.	
(DARACEM-100)	57.2 oz.	
(D.C.I.-S)	38.1 oz.	
Water (gallons) 30.5	254	

Project

Dover

CONCRETE MIX DESIGN

MIX ID : CITY NHDOT QCQA [2] 4000 PSI 08/06/97

CONTRACTOR : PITTSFIELD, ME
PROJECT : -DURHAM, NH
SOURCE OF CONCRETE : CITY CONCRETE COMPANY PORTSMOUTH, NH
CONSTRUCTION TYPE : QC/QA BRIDGE DECK CONCRETE
PLACEMENT : PUMP, DIRECT OR BUCKET

WEIGHTS PER CUBIC YARD (SATURATED, SURFACE-DRY)		YIELD, CU FT
DRAGON TYPE II, LB	325	1.65
SLAG CEMENT, LB	325	1.77
SAND CMC, LB	1192	7.21
#67 CMC STONE, LB	1775	10.65
WATER, LB (GAL-US)	250 (30.0)	4.01
TOTAL AIR, %	7.0 +/- 2.0	1.90
	TOTAL	27.20
DARACEM 100, OZ-US	130.00	
DAREX II, OZ-US	3.0	
WATER/CEMENT RATIO, LBS/LB	0.39	
SLUMP, IN	-	
CONCRETE UNIT WEIGHT, PCF	142.2	

Air entraining admixture addition rate may be adjusted to meet field conditions.
Daracem 100 addition rate may be adjusted to meet field conditions.

10/27/97 Telecon w/:

Final Test Results

PEL = 0.754 mg/m³

% silica (quartz only) 11.25%)

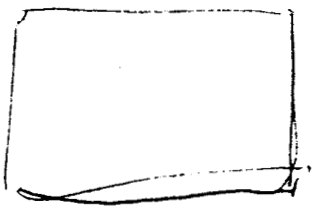
Exposure level 1.51

weight 4.1 mg ~~ug~~ mg/m³

↳ 1.2 ~~ug~~ mg

177 min

Volume ~~ug~~ (L) 301.077 (L)



0.755 mg/m³

Concentration 3.986 mg/m³

Env. TWA = 1.470 mg/m³

Seventy = 1.947

Upper Confidence Level: 2.137

Lower Confidence Level: 1.757

FAX COVER SHEET

DURHAM, NH 03824

Tel.
Fax

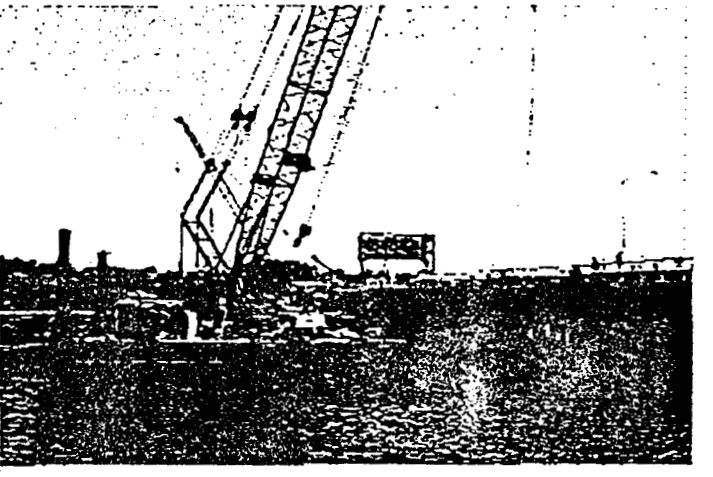
TO : _____ COMPANY : OSHA

FAX NO. : _____

FROM : _____

DATE : 10/27/97

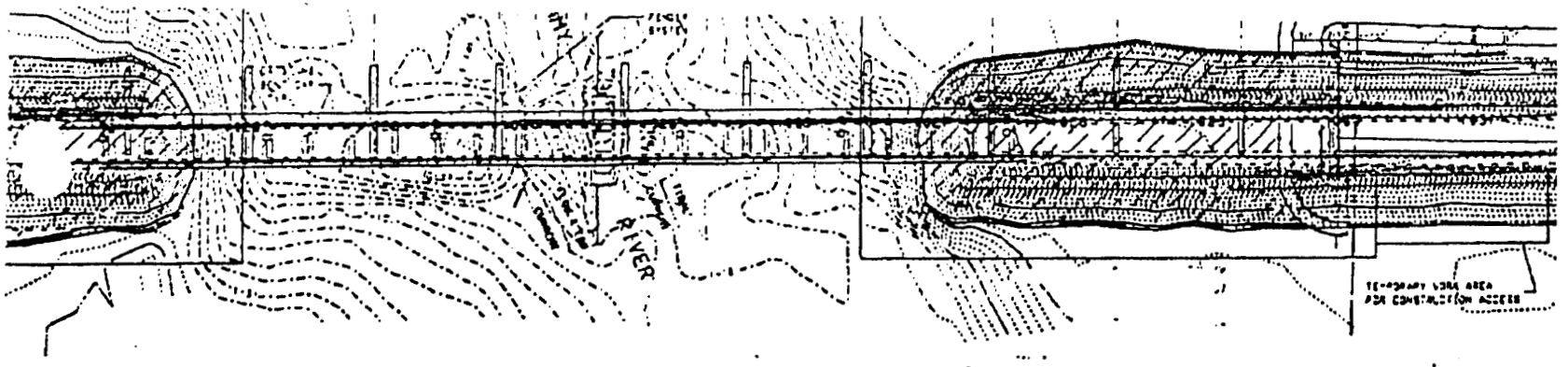
TIME : 11:03Am



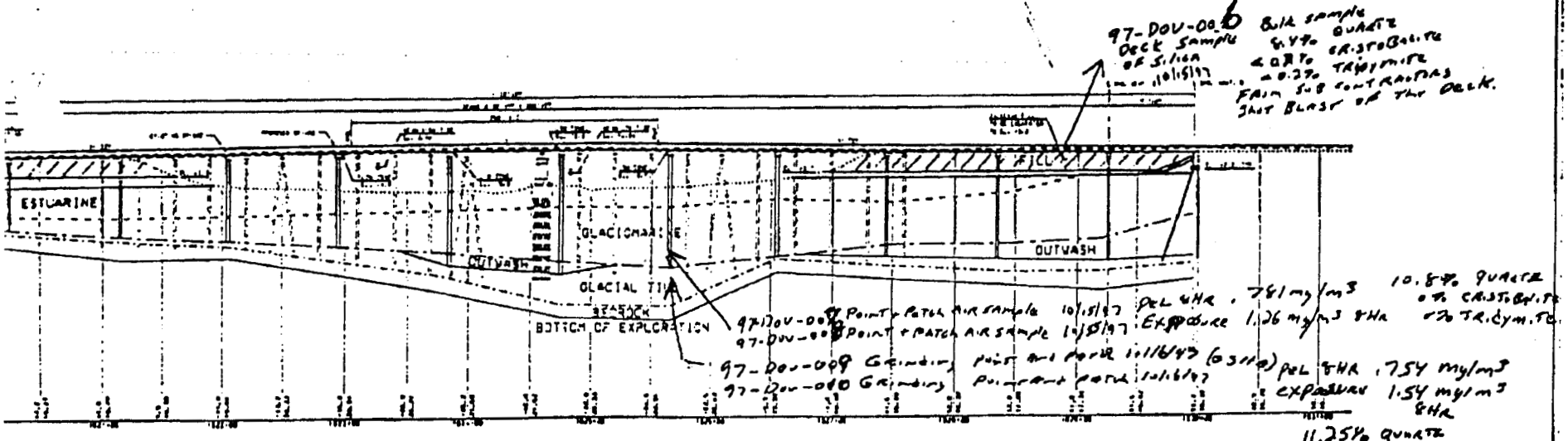
PAGES INCL. COVER SHEET : 13

MESSAGE :

IF you HAVE Any QUESTION
Please CALL



PLAN



PROFILE

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION • BUREAU OF BRIDGE DESIGN

10/16/97

TOTAL DUST
1.2 mg / 4.1 mg

QUARTZ 0.135 mg
CRISTOBALITE ≤ 0.085 mg
TRIDYMITE ≤ 0.005 mg

$$\frac{.135\ mg}{1.2\ mg} = .1125 \times 100 = 11.25\%$$ SILICA QUARTZ

$$PEL = \frac{10\ mg/m^3}{\%\text{-QUARTZ} + 2} = \frac{10}{11.25 + 2} = \frac{10}{13.25} = .7547$$
PEL 8HR

HALF FACE - FILTER = 10 X PEL 7.54

$$TWA = \frac{\text{Time exposed} \times 4.1\ mg/m^3}{480\ min\ 8Hr} = \frac{725.7\ mg/m^3}{480\ min} = 1.51$$
EXPOSURE FOR 8HR

10/15/97 RESULTS

	Sample	Total Dust	
Quartz	0.108 mg	1.0 mg	2.5 mg/m3
Cr.St.Bulite	≤ 0.005 mg		
Tr.dymite	≤ 0.005 mg		

$\frac{0.108}{1.0} = .108 \times 100 = 10.8\%$ 5.2 was Quartz

PEL = $\frac{10 \text{ mg/m}^3}{90 \text{ Quartz} + 2}$ $\frac{10}{10.8 + 2} = \frac{10}{12.8} = .781 \text{ mg/m}^3$

Half Face Filter Factor 10X PEL = 7.81 mg/m.

TWA = $\frac{\text{Time exposed} \times \text{Dust Results}}{480 \text{ min} \atop 8 \text{ Hr}}$

$\frac{242 \text{ min} \times 2.5}{480 \text{ min}} = 1.26 \text{ mg/m}^3$ 8 Hr

SAMPLE LOG FORM

SAMPLE NO.	DATE/TIME SAMPLE TAKEN	SAMPLE DESCRIPTION	SAMPLE MATRIX	SAMPLER'S INITIALS	JOBSITE	TYPE OF SAMPLE Grab	Composite	DATE SENT TO LAB	RESULTS
96-POR-001	EXAMPLE 2/24/96; 10:15am	super structure of east end of bridge	paint chips		Portland Bridge	X		2/24/96	Pb 1250 ppm Cd 400 ppm
96-LIN-001	EXAMPLE 2/24/96; 10:15 am	Tom Thumb needle gunning east end of bldg	air sample		Lincoln P&P	X		2/24/96	Pb .10 ug/m³
97-DOV-005	6/24/97 11:30 AM	TAKEN OFF EAST Side BRidge JUST BeFore COUNTER WEIGHT	PAINT Chips		Dover BRidge	X		6/24/97	5.7% 57124 mg/kg
97-DOV-006	10/15/97 9:30 AM	Beam 11 off top of deck that just sat blasted	Bulk Silica		Dover Bridge	X		10/15/97	Quartz 0.170 mg/kg Cristobalite <0.[illegible] mg/kg Tridymite <0.05 mg/kg

SAMPLE LOG FORM

SAMPLE NO.	DATE/TIME SAMPLE TAKEN	SAMPLE DESCRIPTION	SAMPLE MATRIX	SAMPLER'S INITIALS	JOBSITE	TYPE OF SAMPLE Grab	Composite	DATE SENT TO LAB	RESULTS
96-POR-001	EXAMPLE 2/24/96; 10:15am	super structure of east end of bridge	paint chips	DMC	Portland Bridge	X		2/24/96	Pb 1250 ppm Cd 400 ppm
9[illegible] IN-001	EXAMPLE 2/24/96; 10:15 am	Tom Thumb needle gunning east end of bldg	air sample	DMC	Lincoln P&P	X		2/24/96	Pb .10 ug/m³
97-Dov-007	10/15/97 11:30AM	Paint + Patching Bent 8 piers under the Deck	Air Sample		Dover Bridge	X	Dust < 0.02 mg/m³ NOTE	10/15/97	mg Quartz < 0.005 Cristobalite < 0.005 Tridymite 0.005 Silica
97-Dov-008	10/15/97 11:30 AM	Paint + Patching Bent 8 Pier Grinding	Air Sample		Dover Bridge	X	Dust Count 2.5 mg/m³	10/15/97	Quartz 0.263 mg/m³ Cristobalite < 0.012 mg/m³ Tridymite ≤ 0.012 mg/m³
97-Dov-009	10/16/97 8:00AM	Paint + Patching Grinding Bent 8	Air Sample		Dover Bridge	X	Dust Count ≤ 0.03 mg/m³	10/16/97	Quartz < 0.005 mg Cristobalite ≤ 0.005 mg Tridymite ≤ 0.005 mg
97-Dov-010	10/16/97 8:00AM	Paint + Patching Grinding Bent 8 under	Air Sample		Dover Bridge	X	Dust Count 4.2 mg/m³	10/16/97	Quartz 0.440 mg/m³ Cristobalite ≤ 0.017 mg/m³ Tridymite ≤ 0.017 mg/m³

THE SCOTT LAWSON GROUP, LTD.
P.O. BOX 3364, CONCORD, NEW HAMPSHIRE 03302
(603) 228-3610

Pittsfield NH 04967

Report Date : 10/21/97
SLGL Job No. : 975874
Date Sampled : 10/15/97
Date Received : 10/16/97
Sampler
Project :

SLG Lab No.	Sample Description	Analyte	Analytical Method	mg/kg (ppm)	%	Date Analyzed	Analyst
112725-2	97-DOV-006, Dover Bridge, Deck	Quartz	NIOSH 7500	0.170	[illegible]	10/20/97	DC
112725-3	97-DOV-006, Dover Bridge, Deck	Cristobaelite	NIOSH 7500	<0.006	<0.2	10/20/97	DC
112725-4	97-DOV-006, Dover Bridge, Deck	Tridymite	NIOSH 7500	<0.005	<0.2	10/20/97	DC

All Analyses performed in accordance with U.S.E.P.A Methods for Chemical Analysis of Water and Waste, EPA-600/4-79-020, Standard Methods for the Examination of Water and Wastewater or Test Methods for Evaluating Solid Waste, SW-846, or as otherwise noted.
SLGL laboratory certifications apply only to samples analyzed inhouse.
ND= None detected
* = Sample was analyzed outside of EPA holding time.
< = Less than.

Reviewed By: ______________________

Approved By ______ ... it, Lab Manager ______

solids(R)

Rev. 8/29/96

Air Sampling Worksheet

Project: ______ Date: 10/15/97

Employee Name: ______ Social Security #: ______

Employee Job Classification: 7033 Number of Employees Exposure Monitoring Represents 2

Activity Performed by Employee(s): POINT AND PATCH BENT 8 AND PIERS UNDER THE DECK. GRINDING PATCHES

Equipment/Tools Used (be specific): BLACK & DECKER PROFESSIONAL GRINDER SER 26612 #AG933 120V 5000 RPM WITH H.I.T. DIAMOND BLADE

Personal Protective Equipment: RAIN SUIT / COVER ALLS HARD HAT, DOUBLE EYE WEAR, STEEL TOE BOOTS LEATHER GLOVES

Respiratory Protection Used: HALF FACED NEG PRESSURE AIR PURIFYING

Area Characteristics (outdoors, boiler cavity, 2,000 sq. ft. tank, etc.): 40 FT X 12 FT 480 SQ FT. WORKING OFF DOCKS AND DIVING BOATS WITH STAGING AND STAGING PLANKS

Ventilation Equipment Used (make/model, flow rate, equipment positioning): NATURAL WIND BREEZE UNDER BRIDGE BLOWING FROM THE NORTH EAST

Additional Atmospheric Controls (dampers open, HEPA units, wet method, containment erected, etc.): CAN NOT WET CONCRETE DOWN DUE TO THE WORK BEING DONE YOU MUST SEE FOR FINISH PRODUCT

Wind Direction/Speed (outdoor work only): WIND DIRECTION NE 60° / WIND SPEED 0

Temperature: 67°F Humidity: 59% Bariometric Pressure: 30.43 (at sampling location) BAR TREND → Dew Point 52

Length of Shift: 10 Crew Size: 2 Total Length of Activity: 4 HRS

Employee's work location and activities while not wearing sample pump: LUNCH TRAILER ON APPROACH "A" ABUTMENT / MOVING FLOATS Duration: WORK 4 HR / LUNCH 30 MIN / MOVING FLOATS 3½ HR

Testing for:	Sample Number	Pump Number	Pump Start	Pump Stop	Total Time (min)	Avg Cal. Flow Rate (liters)	Total Volume (LPM)	Calibration Flow Rate Before	Calibration Flow Rate After
RESPIRATOR DUST	97-Dov-007	3387 4A	11:30AM	4:30PM	NA	N/A	N/A	NA	ND
RESPIRATOR DUST	97-Dov-008	3387 4A	11:30AM	4:30PM	242	1.699	411.158	1.698	1.700

Total Volume (LPM)= Total Time (Min) X Avg. Cal. Flow Rate (Liters)

Sample Coordinator: ______ Print ______ Initial ______ Social Security Number Indoor/Outdoor Work: OUTDOOR

THE SCOTT LAWSON GROUP, LTD.
P.O. BOX 3364, CONCORD, NEW HAMPSHIRE 03302
(603) 228-3610

Pittsfield NH 04967

Report Date	:	10/21/97
SLGL Job No.	:	971874
Date Sampled	:	10/16/97
Date Received	:	10/16/97
Sampler	:	
Project	:	
Analyte	:	Respirable Dust
Methodology	:	NIOSH 0600

SLG Lab No.	Sample Description	Air Volume Liters	Sample Time Minutes	mg	mg/m3	8 Hr-TWA mg/m3
111726-1	97-DOV-007, Dover Bridge, Port and Patch	0.0	0	<0.02	<0.02mg	----
111727-2	97-DOV-008, Dover Bridge, Port and Patch	611.2	242	1.0	1.6	----

Positive interferences that may hav been found in the blank have been accounted for. SLGL laboratory certifications apply only to samples analyzed in house.

< = Less than
* = Filter overloaded
** = Sample loss due to fine particulates
***= Filter Damage

Reviewed By: ____ , ____

Approved By: ____ , Manager ____ Grava(1)

THE SCOTT LAMSON GROUP, LTD.
P.O. BOX 3101 CONCORD, NEW HAMPSHIRE 03302
(603) 225-3810

Pittsfield NH 04947

Report Date : 10/23/97
SLGL Job No. : 975876
Date Sampled : 10/15/97
Date Received : 10/16/97
Sampler :
Project :

SLG Lab No.	Sample Description	Analyte	Analytical Method	Air Volume Liters	MG	mg/m3	8 Hour TWA
112726-1	97-DOV-007, Dover Bridge, Port and Patch	Quartz	NIOSH 7500	0.0	<0.005	----	----
112726-3	97-DOV-007, Dover Bridge, Port and Patch	Cristobalite	NIOSH 7500	0.0	<0.005	----	----
112726-4	97-DOV-007, Dover Bridge, Port and Patch	Tridymite	NIOSH 7500	0.0	<0.005	----	----
112727-2	97-DOV-008, Dover Bridge, Port and Patch	Quartz	NIOSH 7500	411.1	0.108	0.263	----
112727-3	97-DOV-008, Dover Bridge, Port and Patch	Cristobalite	NIOSH 7500	411.1	<0.005	<0.012	----
112727-4	97-DOV-008, Dover Bridge, Port and Patch	Tridymite	NIOSH 7500	411.1	<0.005	<0.012	----

Reviewed By: _____

Positive interferences that may have been found in the blank have been accounted for. SLGL laboratory certifications apply only to samples analyzed inhouse.

C = Ceiling
< = Less than.
* = Filter overloaded or filter damaged.
** = Sample lose due to fine particulates, results may be greater than actual data indicates.

Approved : _____
Lab Manager

Rev. 8/29/96

Air Sampling Worksheet

Project: ______ Date: 10/16/97

Employee Name: ______ Social Security ______

Employee Job Classification: 7100 Number of Employees Exposure Monitoring Represents 2

Activity Performed by Employee(s): GRinding PEIRS on Bent 8 under The Deck.

Equipment/Tools Used (be specific): BLACK + DECKER PROFESSIONAL GRINDER SER 26612 120v 5000 with Diamond N.IT. BLADE # AG933

Personal Protective Equipment: RAIN SUIT / COVER ALLS, HARD HAT, DBL EYE WEAR, STEEL TOE BOOTS Leather gloves

Respiratory Protection Used: HALF FACE NEG PRESSURE AIR PURIFYING

Area Characteristics (outdoors, boiler cavity, 2,000 sq. ft. tank, etc.): 40 FT X 12 FT 480 SQ. FT. WORKING OFF DOCKS AND TUBS (DIVING BOATS) WITH STAGING PLANK FROM DOCK TO DOCK FOR CROSSING AND WORKING MIDDLE

Ventilation Equipment Used (make/model, flow rate, equipment positioning): WIND DRAFT NORTH WEST

Additional Atmospheric Controls (dampers open, HEPA units, wet method, containment erected, etc.): CAN NOT WET CONCRETE DUE DEW TO THE WORK BEING DONE. YOU MUST SEE THE FINISH SERVICE

Wind Direction/Speed (outdoor work only): WIND DIRECTION NORTH WEST / SPEED 1 m/H

Temperature: 55°F Humidity: 74% Barometric Pressure: 30.47 BAR. Tend ↗ Dew Point 48°F (at sampling location)

Length of Shift: 10 Crew Size: 2 Total Length of Activity: 3

Employee's work location and activities while not wearing sample pump: Lunch TRAILER ON APPROACH "A" ABUTMENT / MOVING FLOATS Duration: 30 min Lunch / 5 HR moving

Testing for:	Sample Number	Pump Number	Pump Start	Pump Stop	Total Time (min)	Avg Cal. Flow Rate (liters)	Total Volume (LPM)	Calibration Flow Rate Before	Calibration Flow Rate After
RESP DUST	97-Dov-009 ~~97-Dov-009~~ 263	3387 4A	8:00 AM	11:30 AM	NA	NA	NA	1.700	1.7011
RESP DUST	97-Dov-010	3387 4A	8:00 AM	11:30 AM	177	1.701	301.077	1.700	1.700

Total Volume (LPM) = Total Time (Min) X Avg. Cal. Flow Rate (Liters)

Sample Coordinator ______ ______ ______ Indoor/Outdoor Work: outside
Print Initial Social Security Number

THE SCOTT LAWSON GROUP, LTD.
P.O. BOX 3304 CONCORD, NEW HAMPSHIRE 03302
(603) 224-3616

Pittsfield NH 04957

Report Date : 10/24/97
SLGL Job No. : 975895
Date Sampled : 10/15/97
Date Received : 10/20/97
Sampler :
Project :

SLG Lab No.	Sample Description	Analyte	Analytical Method	Air Volume liters	mg	ug/m3	8 Hour TWA
112887-1	97-Dov-009, Dover Bridge, Bent 6	Quartz	NIOSH 7500	0.0	<0.005	<0.001mg	----
112888-1	97-Dov-009, Dover Bridge, Bent 8	Cristobalite	NIOSH 7500	0.0	<0.005	<0.001mg	----
112889-1	97-Dov-009, Dover Bridge, Bent 8	Tridymite	NIOSH 7500	0.0	<0.005	<0.001mg	----
112890-1	97-Dov-010, Dover Bridge, Bent 6	Quartz	NIOSH 7500	301.1	0.133	0.443	----
112890-2	97-Dov-010, Dover Bridge, Bent 6	Cristobalite	NIOSH 7500	301.1	<0.005	<0.017	----
112890-3	97-Dov-010, Dover Bridge, Bent 6	Tridymite	NIOSH 7500	301.1	<0.005	<0.017	----

Reviewed By: ___

Positive interferences that may have been found in the blank have been accounted for. SLGL laboratory certifications apply only to samples analyzed inhouse.

C = Ceiling
< = Less than.
> = Filter overloaded or filter damaged.
>< = Sample loss due to fine particulates, results may be greater than actual data indicates.

Approved By: _____
Lab Manager

grave(1)

THE SCOTT LAWSON GROUP, LTD.
P.O. BOX 3304 CONCORD, NEW HAMPSHIRE 03302
(603) 226-5810

Pittsfield NH 04967

Report Date : 10/24/97
SLGL Job No. : 978091
Date Sampled : 10/16/97
Date Received : 10/20/97
Sampler :
Project :

SLG Lab No.	Sample Description	Analyte	Analytical Method	Air Volume liters	ug	mg/m3
112889-4	97-Dov-809, Dover Bridge, Dent 8	Respirable Dust	NIOSH 0600	0.0	<0.01	<0.02mg
112890-4	97-Dov-810, Dover Bridge, Dent 8	Respirable Dust	NIOSH 0600	301.1	1.2	4.1

SLGL laboratory certifications apply only to samples analyzed inhouse.
Positive interferences that may have been found in the blank have been accounted for.

< = Less than.
* = Filter overloaded or filter damaged.
** = Sample loss due to fine particulates, results may be greater than actual data indicates.

Reviewed By: _____

Approved By: _____
, Laboratory Manager

FAX COVER SHEET

DURHAM, NH 03824

Tel. (
Fax

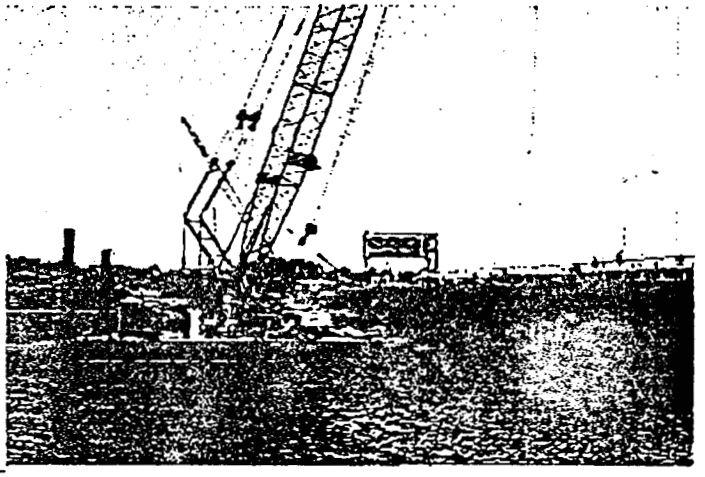
TO : _____ COMPANY : OSHA

FAX NO (___) _____

FROM : _____

DATE : 10/21/97

TIME : 2:38pm



PAGES INCL. COVER SHEET : 7

MESSAGE : Could you send me your Results when done.

Thank you

8 29 96

SAMPLE LOG FORM

SAMPLE NO.	DATE/TIME SAMPLE TAKEN	SAMPLE DESCRIPTION	SAMPLE MATRIX	SAMPLER'S INITIALS	JOBSITE	TYPE OF SAMPLE Grab	Composite	DATE SENT TO LAB	RESULTS
96-POR-001	EXAMPLE 2/24/96; 10:15am	super structure of east end of bridge	paint chips	DMC	Portland Bridge	X		2/24/96	Pb 1250 ppm Cd 400 ppm
96-LIN-001	EXAMPLE 2/24/96; 10:15 am	Tom Thumb needle gunning east end of bldg	air sample	DMC	Lincoln P&P	X		2/24/96	Pb .10 ug/m³
97-DOV-007	10/15/97 11:30 AM	Paint + Patching Bent & Piers under the Deck	Air Sample	-	Dover Bridge	X	Dust < 0.02 mg/m³ [illegible]	10/15/97	Quartz < 0.005 Cristobalite < 0.005 Tridymite 0.005 (α~G mg/m³ S.I)
97-DOV-008	10/15/97 11:30 Am	Paint + Patching Bent 8 Pier Grinding	Air Sample	-	Dover Bridge	X	Dust Count 2.5 mg/m³	10/15/97	Quartz 0.263 mg/m³ Cristobalite < 0.012 mg Tridymite ≤ 0.012 mg
97-Dov-009	10/16/97 8:00Am	Paint + Patching Grinding Bent 8	Air Sample	-	Dover Bridge	X		10/16/97	
97-Dov-010	10/16/97 8:00AM	Paint + Patching Grinding Bent 8 [illegible]	Air Sample	-	Dover Bridge	X		10/16/97	

Rev. 8/29/96

Air Sampling Worksheet

Project: ______ Date: 10/16/97

Employee Name: ______ Social Security #: ______

Employee Job Classification: 7100 Number of Employees Exposure Monitoring Represents 2

Activity Performed by Employee(s): GRinding PeiRS on BenT 8 under The Deck.

Equipment/Tools Used (be specific): BLACK+DeckeR PROFESSional GRinder SeR 26612 Dow Sworp # AG933 with Diamond Nitt Blade

Personal Protective Equipment: RAin SuiT / CoveR Alls, HARd HaT, DBL Eye weaR, STeel Toe Boots Leather gloves

Respiratory Protection Used: HAIF FAce neg pressure AiR PuRiFying

Area Characteristics (outdoors, boiler cavity, 2,000 sq. ft. tank, etc.): 40 FT x 12 FT 480 Sq. FT. working off Docks And Tubs (Diving Boats) with STAging PLank From Dock To Dock For Crossing And working middle.

Ventilation Equipment Used (make/model, flow rate, equipment positioning): wind DRAFT NoRTH West

Additional Atmospheric Controls (dampers open, HEPA units, wet method, containment erected, etc.): CAn not wet ConCReTe Done Due To The work Being "Done." You must see The Finish SeRvise.

Wind Direction/Speed (outdoor work only): wind DiRection NoRTH WesT / Speed 1 m/HR

Temperature: 55°F Humidity: 74% Barometric Pressure: 30.47 Dew Point 48°F
(at sampling location) BAR. Tend [illegible]

Length of Shift: 10 Crew Size: 2 Total Length of Activity: 3

Employee's work location and activities while not wearing sample pump: Lunch TRAiler on AppRach "A" ABuTment Duration: ______

Testing for:	Sample Number	Pump Number	Pump Start	Pump Stop	Total Time (min)	Avg Cal. Flow Rate (liters)	Total Volume (LPM)	Calibration Flow Rate Before	Calibration Flow Rate After
Resp Dust	97-Dow-004 ~~97-D...-00~~ 263	3387 4A	8:00Am	11:30Am	NA	NA	NA	1.700	1.7081
Resp Dust	97-Dow-010	3387 4B	8:00Am	11:30Am	177	1.701	301.077	1.700	1.704

Total Volume (LPM)= Total Time (Min) X Avg. Cal. Flow Rate (Liters)

Sample Coordinator: ______ ______ ______ Indoor/Outdoor Work: outside
Print Initial Social Security Number

Rev. 8/20/96

Air Sampling Worksheet

Project: _____ Date: 10/15/97

Employee Name: _____ Social Security #: _____

Employee Job Classification: 7033 Number of Employees Exposure Monitoring Represents 2

Activity Performed by Employee(s): POINT AND PATCH BENT 8 AND PIERS UNDER THE DECK. GRINDING PATCHES

Equipment/Tools Used (be specific): BLACK & DECKER PROFESSIONAL GRINDER SER 26612 120V 5000 RPM WITH H.I.T. DIAMOND BLADE # AG933

Personal Protective Equipment: RAIN SUIT / COVER ALLS HARD HAT, DOUBLE EYE WEAR, STEEL TOE BOOTS LEATHER GLOVES

Respiratory Protection Used: HALF FACED NEG PRESSURE AIR PURIFYING

Area Characteristics (outdoors, boiler cavity, 2,000 sq. ft. tank, etc.): 40 FT X 12 FT 480 SQ FT. WORKING OFF DOCKS AND DIVING BOATS WITH STAGGING AND STAGGING PLANKS.

Ventilation Equipment Used (make/model, flow rate, equipment positioning): NATURAL WIND BREEZE UNDER BRIDGE BLOWING FROM THE NORTH EAST

Additional Atmospheric Controls (dampers open, HEPA units, wet method, containment erected, etc.): CAN NOT WET CONCRETE DOWN DUE TO THE WORK BEING DONE YOU MUST SEE FOR FINISH PRODUCT

Wind Direction/Speed (outdoor work only): WIND DIRECTION NE 60° / WIND SPEED 0

Temperature: 67°F Humidity: 59% Barometric Pressure: 30.43 Dew Point 52
(at sampling location) BAR TREND →

Length of Shift: 10 Crew Size: 2 Total Length of Activity: 4 HRS

Employee's work location and activities while not wearing sample pump: LUNCH TRAILER OR BREAK "A" ABUTMENT Duration: 4

Testing for:	Sample Number	Pump Number	Pump Start	Pump Stop	Total Time (min)	Avg Cal. Flow Rate (liters)	Total Volume (LPM)	Calibration Flow Rate Before	Calibration Flow Rate After
RESPIRATORY DUST	97-Dav-0[illegible]	3387 YA	11:30 AM	4:30 PM	N/A	N/A	N/A	N/A	N/A
RESPIRATORY DUST	97-Dav-0[illegible]	3387 YA	11:30 AM	4:30 PM	242	1.699	411.158	1.698	1.700

Total Volume (LPM)= Total Time (Min) X Avg. Cal. Flow Rate (Liters)

Sample Coordinator: _____ _____ _____ Indoor/Outdoor Work: OUTDOOR
Print Initial Social Security Number

THE SCOTT LAWSON GROUP, LTD.
P.O. BOX 3306, CONCORD, NEW HAMPSHIRE 03302
(603) 228-3610

Pittsfield NH 04967

Report Date : 10/21/97
SLGL Job No. : 975874
Date Sampled : 10/15/97
Date Received : 10/16/97
Sampler :
Project :
Analyte : Respirable Dust
Methodology : NIOSH 0600

SLG Lab No.	Sample Description	Air Volume Liters	Sample Time Minutes	mg	mg/m3	% MF-TWA mg/m3
111726-1	97-DOV-007, Dover Bridge, Port and Patch	0.0	0	<0.02	<0.02mg	----
111727-8	97-DOV-008, Dover Bridge, Port and Patch	431.2	262	1.0	1.8 2,5	----

Positive interferences that may hav been found in the blank have been accounted for. SLGL laboratory certifications apply only to samples analyzed in house.

* = Less than
\# = Filter overloaded
** = Sample loss due to fine particulates
*** = Filter Damage

Reviewed By: ________

Approved By ________, Manager Greve(?)

THE SCOTT LAWSON GROUP, LTD.
P.O. BOX 3304, CONCORD, NEW HAMPSHIRE 03302
(603) 228-3610

Pittsfield NH 04967

Report Date	: 10/21/97
SLGL Job No.	: 975874
Date Sampled	: 10/15/97
Date Received	: 10/16/97
Sampler	:
Project	:

Bulk

SLG Lab No.	Sample Description	Analyte	Analytical Method	mg/kg (ppm)	%	Date Analyzed	Analyst
112725-1	97-DOV-006, Dover Bridge, Deck	Quartz	NIOSH 7500	0.170	0.0 8.4	10/20/97	DC
112725-2	97-DOV-006, Dover Bridge, Deck	Cristobalite	NIOSH 7500	<0.006	<0.2 <0.2	10/20/97	DC
112725-4	97-DOV-006, Dover Bridge, Deck	Tridymite	NIOSH 7500	<0.005	<0.2 <0.2	10/20/97	DC

All Analyses performed in accordance with U.S.E.P.A Methods for Chemical Analysis of Water and Waste, EPA-600/4-79-020, Standard Methods for the Examination of Water and Wastewater or Test Methods for Evaluating Solid Waste, SW-846, or as otherwise noted.
SLGL laboratory certifications apply only to samples analyzed inhouse.
ND= None detected
* = Sample was analyzed outside of EPA holding time.
< = Less than.

Reviewed By: ____________

Approved By: ____________, Lab Manager

Solids(R)

THE SCOTT LAWSON GROUP, LTD.
P.O. BOX 3334 CONCORD, NEW HAMPSHIRE 03302
(603) 228-3610

Pittsfield NH 04967

Report Date : 10/21/97
SLGL Job No. : 978874
Date Sampled : 10/15/97
Date Received : 10/16/97
Sampler :
Project :

10.8%

from SEP

0.108 / 0.1 resp dust results x100%

SLG Lab No.	Sample Description				mg	mg/m3	8 Hour TWA
112726-1	97-DOV-007, Dover Bridge, Port and Patch	Quartz			0.005 / <0.005	----	----
112726-3	97-DOV-007, Dover Bridge, Port and Patch	Cristob			005 / <0.005	----	----
112726-4	97-DOV-007, Dover Bridge, Port and Patch	Tridymite		0.0	<0.005 / <0.005	----	----
112727-2	97-DOV-008, Dover Bridge, Port and Patch	Quartz	.600	411.2	0.109 / 0.108	0.263 / 0.263	----
112727-3	97-DOV-008, Dover Bridge, Port and Patch	Cristobalite	NIOSH 7500	411.2	<0.005 / <0.005	<0.012 / <0.012	----
112727-4	97-DOV-008, Dover Bridge, Port and Patch	Tridymite	NIOSH 7500	411.2	<0.005 / <0.005	<0.012 / <0.012	----

PEL (for 10 hr shift) 0.624 mg/m3

8 hr. day PEL 0.78 mg/m3
TWA = 1.26

TWA 1.0 mg/m3

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Approved By: , Lab Manager grava(3)

Rev. 3/8/96

Air Sampling Worksheet

Project: Portland Bridge Date: 8/6/96

Employee Name: _____ Social Security #: _____

Activity Performed by Employee(s): using 4" diamond blade grinder, 7" carbide grinder + Hilti TE54 chipper to work on concrete piers

Equipment/Tools Used (be specific): Black & Decker 4" grinder (diamond blade) 7" grinder Bird (carbide blade) Hilti TE54 Chipper

Personal Protective Equipment: 1/2 mask neg air, air purifying w/HEPA, face shield, glasses, leather gloves

Area Characteristics (outdoors, boiler cavity, 2,000 sq. ft. tank, etc.):

Ventilation Equipment Used (make/model, flow rate, equipment positioning):
Natural

Additional Atmospheric Controls (dampers open, HEPA units, wet method, containment erected, etc.):
No wind this morning (noted @ 7:20am)

Wind Direction (outdoor work only): @ 7:20 am no wind

@ 6:59

Temperature: 70°F Humidity: 70% (at sampling location) Bariometric Pressure: 30.13 DewPT 59°F

Length of Shift: 10hr. Crew Size: 8 Total Length of Activity: 10hr.

Employees work location and activities while not wearing sample pump: _____

_____ Duration: _____

Testing for	Sample Number	Pump Number	Pump Start	Pump Stop	Total Time (min)	Flow Rate (liters)	Total Volume (LPM)	Calibration Flow Rate Before	Calibration Flow Rate After	
SILICA	96-DC-004	18	AM 7:07	12:30	323	1.737	561	1.729	1.745	1.737
SILICA	96-DC-006	18	12:30	5:00	277	1.737	481	"	"	
BLANK										

Total Volume (LPM)= Total Time (Min) X Flow Rate (Liters)

Sample Coordinator _____
Print Initial Social Security Number

"Historical Data"

4 1/2 60 / 240 / 30

Recd. from

THE SCOTT LAWSON GROUP, LTD.
P.O. BOX 3304 CONCORD, NEW HAMPSHIRE 03302
(603) 228-3610

Pittsfield ME 04967

Report Date : 8/16/96
SLGL Job No. : 965494
Date Sampled : 8/06/96
Date Received : 8/12/96
Sampler :
Project : I

SLG Lab No.	Sample Description	Analyte	Analytical Method	Air Volume liters	mg	mg/m3
98862-1	96-DC-004, Grinding/Chipping on concrete pier SS# 006-66-5784.	Quartz	NIOSH 7500	561.0	0.591	1.054
98862-2	96-DC-004, Grinding/Chipping on concrete pier, SS# 006-66-5784.	Cristobalite	NIOSH 7500	561.0	<0.005	<0.009
98862-3	96-DC-004, Grinding/Chipping on concrete pier, SS# 006-66-5784.	Tridymite	NIOSH 7500	561.0	<0.005	<0.009
98863-1	96-DC-006, Grinding/Chipping on concrete pier, SS# 006-66-5784.	Quartz	NIOSH 7500	481.0	0.517	1.075
98863-2	96-DC-006, Grinding/Chipping on concrete pier, SS# 006-66-5784.	Cristobalite	NIOSH 7500	481.0	<0.005	<0.010
98863-3	96-DC-006, Grinding/Chipping on concrete pier, SS# 006-66-5784.	Tridymite	NIOSH 7500	481.0	<0.005	<0.010

The method detection limit for the above analysis is 0.02mg.
SLGL laboratory certifications apply only to samples analyzed inhouse.
Positive interferences that may have been found in the blank have been accounted for.

Reviewed By: _____

C = Ceiling.
< = Less than.
* = Filter overloaded or filter damaged.
**= Sample loss due to fine particulates, results may be greater than actual data indicates.

Approved By: _____
d, Lab Manager

gravs(1)

THE SCOTT LAWSON GROUP, LTD.
P.O. BOX 3304 CONCORD, NEW HAMPSHIRE 03302
(603) 228-3610

Pittsfield ME 04967

Report Date : 8/16/96
SLGL Job No. : 965494
Date Sampled : 8/06/96
Date Received : 8/12/96
Sampler :
Project : F

SLG Lab No.	Sample Description	Analyte	Analytical Method	Air Volume liters	mg	mg/m3
98864-1	Analytical Field Blank.	Quartz	NIOSH 7500	0.0	<0.005	<0.005mg
98864-2	Analytical Field Blank.	Cristobalite	NIOSH 7500	0.0	<0.005	<0.005mg
98864-3	Analytical Field Blank.	Tridymite	NIOSH 7500	0.0	<0.005	<0.005mg

The method detection limit for the above analysis is 0.02mg.
SLGL laboratory certifications apply only to samples analyzed inhouse.
Positive interferences that may have been found in the blank have been accounted for.

C = Ceiling.
< = Less than.
* = Filter overloaded or filter damaged.
**= Sample loss due to fine particulates, results may be greater than actual data indicates.

Reviewed By: __

Approved By: ___

Lab Manager

gravs(1)

Certificate of Calibration

for

A.P. BUCK, INC. mini-BUCK CALIBRATOR™

Serial No. 051093 Date Calibrated: 3-31-97 Next Calibration due date 3-31-98

Model No. M-1 ☐ M-5 ☒ M-30 ☐

Applicable Measurement Standards

	Description	MFR.	Model	Serial #	Calibration Due Date	N. I. S. T.
☒	0-1000 Buret	Kimble	17801	002	04/19/99	Special 17081
☐	0-1000 Buret	Kimble	17801	003	04/19/99	Special 17081
☐	Stopwatch	CMS	387-621	0996607	04/24/98	Loran "C"
☒	Stopwatch	CMS	387-621	0996605	04/24/98	Loran "C"
☐	Stopwatch	CMS	387-621	1078246	03/22/97	Loran "C"

☐ Unable to calibrate as received due to condition of unit.

This calibrator as received at A.P. Buck, Inc.'s facility is: ☐ in ☒ not in* specification.

*Out of specification by High 5 % Low _____ %

This is to certify that the instrument listed above was calibrated against National Institute of Standards & Technology (NIST) test no. IR-74-461 utilizing a 1,000 ml buret, and an electronic digital stop watch which are traceable to NIST. The accuracy of the instruments used to perform calibration is greater than 4 to 1. The A.P. Buck, Inc. Calibration system is in compliance with ANSI Z540-1, ISO / IEC guide 25.

Calibration was conducted with A.P. Buck, Inc. Calibration Procedure APB-1 rev. 5.0 with a constant flow pump using the Bubble-meter method in accordance with the Public Health Service Publication No. 614. A.P. Buck, Inc. guarantees the accuracy and repeatability of ± 0.5% for any display reading as described under the instruction manual "Principles of Operation". Responsibilities shall in no event, nor for any cause whatsoever, exceed the price charged for the calibration represented by this certification.

Calibration Technician _____ President _____

A.P. BUCK, INC.
7101 PRESIDENTS DR.
SUITE 110
ORLANDO, FL 32809

INDEX

14808-60-7	Silica, Crystalline Quartz Silicon Dioxide SiO_2
13780-06-8	DCI Corrosion Inhibitor
Mixture-NA	DCI-S & DCI-M Corrosion Inhibitor
N/A Mixture	Portland Cement
N/A Mixture	Daravair M/Daravair R
N/A Mixture	Condensed Silica Fume Slurry Force 10,000
N/A Mixture	Airalon 20 AEA Alkaline Solution of Fatty Acid Salts Concrete Air Entraining Agent
N/A Mixture	Aqueous Blend of Calcium Chloride, Glucose Polymers and Amine Formate
N/A Mixture	WRDA-19 Naphthalenesulfonate Formaldehyde Copolymer in Aqueous Solution Concrete Admixture
N/A Mixture	Aqueous Solution of Calcium Chloride with Triethanolamine
N/A Mixture	Daracem 100
N/A Mixture	Daracem 100
N/A Mixture	Daratard 17
N/A Mixture	Grace Fibers; Grace Stucco Fibers

Rec'd 12/4/97

INDEPENDENT CEMENT CORPORATION
POST OFFICE BOX 12-310
ALBANY, NEW YORK 12212
(518) 459-3211

July 26, 1988

Mr.

Allston, Massachusetts 02134

RE: State of Massachusetts "Right-to-Know Law"

Dear

Enclosed please find our Material Safety Data Sheet( ), (OSHA Form 20), as per your request.

X The Material Safety Data Sheet for portland cement applies to all types of this product supplied to you by our company.

____ The Material Safety Data Sheet for masonry cement applies to the product supplied to you from our plant.

If we may be of any further assistance, please do not hesitate to contact me at

Sincerely,

Manager, Technical Services

Enclosure
cc: N.E.D. Sales Office

U.S. SILICA.

MATERIAL SAFETY DATA SHEET

Identity: Crystalline Silica (Quartz)

SECTION I

Manufacturer's Name
U.S. Silica Company

Address
P.O. Box 187
Berkeley Springs, WV 25411

Emergency Telephone Number
304-258-2500

Telephone Number for Information
304-258-2500

Date Prepared
05-06-92

SECTION II — HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

Hazardous Components:
Silica, Crystalline Quartz (respirable)

Specific Chemical Identity: Silicon Dioxide SiO_2 (CAS 14808-60-7)

Common Names: Silica, Flint, Sand, Crystalline Free Silica, Quartz, Ground Silica, trade names (see Page 4).

OSHA PEL: Exposure to airborne crystalline silica shall not exceed an 8-hour time-weighted average limit as stated in 29 CFR § 1910.1000 Table Z-1-A, Air Contaminants, specifically:

Silica, Crystalline Quartz (respirable) 0.1 mg/M³

ACGIH TLV: Crystalline Quartz
TLV—TWA = 0.1 mg/M³ (Respirable Dust)
See Threshold Limit Value and Biological Exposure Indices for 1991-1992 American Conference of Governmental Industrial Hygienists.

Other Limits Recommended: National Institute for Occupational Safety and Health (NIOSH). Recommended standard maximum permissible concentration = 0.05 mg/M³ (respirable free silica) as determined by a full-shift sample up to 10-hour working day, 40-hour work week. See NIOSH Criteria for a Recommended Standard Occupational Exposure to Crystalline Silica.

SECTION III — PHYSICAL/CHEMICAL CHARACTERISTICS

Boiling Point:	4046°F	Specific Gravity (H_2O = 1):	2.65
Vapor Pressure (mm Hg.):	None	Melting Point:	3050°F
Vapor Density (AIR = 1):	None	Evaporation Rate: (Butyl Acetate = 1)	None

Solubility in Water: Insoluble in water

Appearance and Odor: White or tan sand, granular, crushed, or ground — No odor or taste.

Rec'd

SECTION IV — FIRE AND EXPLOSION HAZARD DATA

Flash Point (Method Used): Non-flammable

Flammable Limits: None LEL: None UEL: None

Extinguishing Media:

None required: sand may be used as extinguishing media.

Special Fire Fighting Procedures: N/A

Unusual Fire and Explosion Hazards:

Crystalline silica is neither a fire nor an explosion hazard. Crystalline silica may be used to put out Class A and B fires.

SECTION V — REACTIVITY DATA

Stability: Unstable: Stable: X Conditions to Avoid: None

Incompatibility (Materials to Avoid):

Contact with powerful oxidizing agents such as flourine, chlorine trifluoride, manganese trioxide, oxygen difluoride, may cause fires.

Hazardous Decomposition or Byproducts:

Silica will dissolve in Hydrofluoric Acid and produce a corrosive gas - silicon tetrafluoride.

Hazardous Polymerization: May Occur: Will Not Occur: X Conditions to Avoid: None

SECTION VI — HEALTH HAZARD DATA

Route(s) of Entry:

Inhalation? Yes Skin? No Ingestion? No

Health Hazards (Acute and Chronic):

Prolonged exposure to respirable crystalline quartz may cause delayed (chronic) lung injury (silicosis). Acute or rapidly developing silicosis may occur in a short period of time in heavy exposure in certain occupations such as sandblasters. Silicosis is a form of disabling pulmonary fibrosis which can be progressive and may lead to death.

Carcinogenicity:

NTP? Yes

The National Toxicology Program (NTP) published its Sixth Annual Report on Carcinogens which concludes that "silica, crystalline (respirable)" may reasonably be anticipated to be a carcinogen. The NTP conclusion is based on sufficient evidence for the carcinogenicity of respirable crystalline silica in experimental animals and limited evidence in humans.

IARC Monographs? Yes

IARC Monographs on the Evaluation of the Carcinogenic Risk of Chemicals to Humans (volume 42, 1987) concludes that there is sufficient evidence for the carcinogenicity of crystalline silica to experimental animals, and that there is limited evidence of the carcinogenicity of crystalline silica to humans. IARC Class 2A.

Signs and Symptoms of Exposure:

Undue breathlessness, wheezing, cough and sputum production.

Medical Conditions Generally Aggravated by Exposure:

Pulmonary function may be reduced by inhalation of respirable crystalline silica. Also lung scarring produced by such inhalation may lead to a progressive massive fibrosis of the lung which may aggravate other pulmonary conditions and diseases and which increases susceptibility to pulmonary tuberculosis. Progressive massive fibrosis may be accompanied by right heart enlargement, heart failure, and pulmonary failure. Smoking aggravates the effects of exposure.

Emergency and First Aid Procedu

For sand in eyes, wash immediately with water. If irritation persists, seek medical attention. For gross inhalation, remove person immediately to fresh air, give artificial respiration as needed, seek medical attention as needed.

SECTION VII — PRECAUTIONS FOR SAFE HANDLING AND USE

Steps To Be Taken in Case Material is Released or Spilled:

Spills: Use dustless methods (vacuum) and place into closable container for disposal, or flush with water. Do not dry sweep. Wear protective equipment specified below.

Waste Disposal Method:
Dispose in accordance with Federal, State, and Local regulations.

Precautions To Be Taken In Handling and Storing:
Avoid breakage of bagged material or spills of bulk material. See control measures in Section VIII.

Other Precautions:
Use dustless systems for handling, storage, and clean up so that airborne dust does not exceed the PEL. Use adequate ventilation and dust collection. Practice good housekeeping. Do not permit dust to collect on walls, floors, sills, ledges, machinery, or equipment. Maintain, clean, and fit test respirators in accordance with OSHA regulations. Maintain and test ventilation and dust collection equipment. Wash or vacuum clothing which has become dusty. See also control measures in Section VIII.

See OSHA Hazard Communication Rule 29 CFR Sections 1910.1200, 1915.99, 1917.28, 1918.90, 1926.59, and 1928.21, and state and local worker or community "right to know" laws and regulations. We recommend that smoking be prohibited in all areas where respirators must be used. WARN YOUR EMPLOYEES (AND YOUR CUSTOMERS-USERS IN CASE OF RESALE) BY POSTING AND OTHER MEANS OF THE HAZARD AND OSHA PRECAUTIONS TO BE USED. PROVIDE TRAINING FOR YOUR EMPLOYEES ABOUT THE OSHA PRECAUTIONS.

See also American Society for Testing and Materials (ASTM) standard practice E 1132-86, "Standard Practice for Health Requirements Relating to Occupational Exposure to Quartz Dust."

SECTION VIII — CONTROL MEASURES

Respiratory Protection

The following chart specifies the types of respirators which may provide respiratory protection for crystalline silica.

RESPIRATORY PROTECTION FOR CRYSTALLINE SILICA

CONDITION	MINIMUM RESPIRATORY PROTECTION*
Particulate Concentration Up to 5 x PEL	Any dust respirator.
Up to 10 x PEL	Any dust respirator, except single-use or quarter-mask, respirator. Any fume respirator or high efficiency particulate filter respirator. Any supplied-air respirator. Any self-contained breathing apparatus.
Up to 50 x PEL	A high efficiency particulate filter respirator with a full facepiece. Any supplied-air respirator with a full facepiece, helmet, or hood. Any self-contained breathing apparatus with a full facepiece.
Up to 500 x PEL	A powered air-purifying respirator with a high efficiency particulate filter. A Type C supplied-air respirator operated in pressure-demand or other positive pressure or continuous-flow mode.
Greater than 500 x PEL or entry and escape from unknown concentrations	Self-contained breathing apparatus with a full facepiece operated in pressure-demand or other positive pressure mode. A combination respirator which includes a Type C supplied-air respirator with a full facepiece operated in pressure-demand or other positive pressure continuous-flow mode and an auxiliary self-contained breathing apparatus operated in pressure-demand or other positive pressure mode.
Abrasive Blasting	Any type CE, supplied-air respirator with a full facepiece, hood, or helmet, operated in a positive-pressure mode. (See 29 CFR § 1910.94 (a)).

*Only NIOSH-approved or MSHA-approved equipment should be used. (See 29 CFR § 1910.134).

See also ANSI standard Z88.2-1980 "Practices for Respiratory Protection," and standard Z9.4-1984 "Ventilation and Safe

Ventilation:

Local Exhaust: Use sufficient local exhaust to reduce the level of respirable dust to the PEL. See ACGIH "Industrial Ventilation, A Manual of Recommended Practice," the latest edition.

Mechanical
See "Other Precautions" under Section VII.

Special
See "Other Precautions" under Section VII.

Other
See "Other Precautions" under Section VII.

Protective Gloves
Optional

Eye Protection
Wear protective shield (safety glasses) when exposed to dust particles.

Other Protective Clothing or Equipment
Optional.

Work/Hygienic Practices
Avoid creating and breathing dust. See "Other Precautions" under Section VII.

The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind, express or implied, is made with respect to the information contained herein. We accept no responsibility and disclaim all liability for any harmful health effects which may be caused by purchase, resale, use or exposure to our silica. Customers-users of silica must comply with all applicable health and safety laws, regulations and orders.

U.S. SILICA COMPANY TRADE NAMES

ASTM TESTING SANDS	MYSTIC WHITE®
F-SERIES FOUNDRY SANDS	PENN SAND®
FLINTSHOT®	O-MIX™
FLINTSHOT® BLASTING SANDS	O-ROK®
GRAVEL PACK	SIL-CO-SIL®
HYDRAULIC FRACING SANDS	SUPERSIL®
MIN-U-SIL®	

SAFETY BULLETIN

HAZARD COMMUNICATION PROGRAM

The purpose of Hazard Communication Program is to ensure information about on-site hazardous materials is communicated to and available for all employees and subcontractors. Broadly defined, a **hazardous material** is any substance or mixture of substances with properties capable of producing adverse effects on the environment and/or human health and safety.

It is an employee's **RIGHT TO KNOW** what chemical hazards they are exposed to and how to protect themselves from such hazards.

This Bulletin is outlined as follows:

I. Employee Training

II. Container Labeling and Other Warning Forms

III. Material Safety Data Sheets (MSDSs)

* Inserts: 1. Training Sign-off Sheet
2. Labeling System Guide (poster)

- -

I. Employee Training:

All employees, subcontractors, visitors and applicable project personnel must receive training on Hazard Communication Program before starting work at a new jobsite. The project management is responsible for all training and training documentation.

A. Training Topics:

All training must be job-specific and should address the following in each safety activity plan:

1. Physical and Health Hazards in the Work Area: Provide specific information about the potential physical and health hazards of each hazardous material.

Rev. 2/15/93

2. Detecting a Hazardous Chemical Release into the Environment: Outline the available methods and/or equipment to detect a chemical release in the work area -chemical odor and/or visibility, monitoring equipment, alarms, etc.

3. Employee Protection: Assist employees with the proper use and selection of personal protective equipment for the degree of the chemical hazard.

4. Hazard Communication: Provide training on the location of MSDSs, how to read each section of the MSDS and what it means, how to obtain copies of MSDSs, how to read a label and determine the degree of hazard, how to protect oneself from each chemical substance, and how to respond in an emergency situation.

5. Hazards of Non-Routine Tasks: Provide special training, including MSDS, labeling, potential hazards, precautionary measures, and written plan, regarding non-routine work assignments with hazardous materials.

6. Project Contingency Plan: Outline the project's hazardous materials and waste contingency plan- the emergency action procedures and chain of command.

   Note: Employees performing maintenance, major renovations, or specialty work on or adjacent to a chemical process (lime kiln, boilers, etc.) must receive specific hazard training under OSHA's new Process Safety Management Standard. Please communicate with your project owner to see if this applies to your activity.

B. Training:

1. All employees must receive annual training on Hazard Communication program.

2. Employees must receive job-specific hazard communication training before starting work at a project, and whenever changes dictate (working with new hazardous material on-site, etc.)

3. There must be written documentation that each employee has completed their hazard communication training. These records must be kept for three years.

* Inserted is a training sign-off sheet for your use.

II. Container Labeling and Other Warning Forms:

Labels and other warning forms provide immediate information about a container or area's contents and hazards.

A. Container Labeling:

1. All containers, original or secondary, must be marked with either an original manufacturer's label or a -generated label.

2. All labels must properly identify the container's hazardous contents and provide appropriate health hazard warnings.

3. All employees are responsible for ensuring project containers are legibly labeled.

4. -- projects should use the National Fire Protection Association's (NFPA) labeling system. This system identifies the material by name and classifies hazardous substances on a scale of zero (no danger) to four (most dangerous). Each material is rated according to its Health Hazard, Flammability, Reactivity, and Specific Hazards.

5. MSDSs provide labeling information and numbers for the NFPA rating system. Contact the Corporate Safety Department if there are any labeling questions.

* Please post the inserted colored Labeling System Poster for all employees' use.

B. Other Warning Forms:

Signs and Barricaded Areas warn project personnel and visitors about jobsite hazardous materials. For example, contaminated areas in a mill should be barricaded off from regular traffic. Also, lead work areas should have clearly posted signs describing the specific hazards.

III. Material Safety Data Sheets (MSDSs):

Material Safety Data Sheets are detailed informational bulletins prepared by chemical manufacturers. They outline and describe a product's physical and chemical properties, potential physical and health hazards, routes of exposure, precautions for safe handling and use, and emergency and

first aid procedures. MSDSs help employers and employees plan for daily hazardous materials exposures and emergency situations.

Project management must maintain the MSDS record and ensure that each employee has knowledge about the site's hazardous substances. Their responsibilities include the following:

A. There must be a current MSDS on-site for all project hazardous materials.

B. MSDSs must be kept together in a central location that is "readily accessible" at all times to employees. (Note: on some projects more than one MSDS book may be necessary for employee accessibility.)

C. MSDS books/files must contain a current index, or list, of known on-site hazardous materials.

D. All employees must be trained on the location of their project MSDSs. These MSDSs must be readily accessible to every employee, 24 hours a day.

E. All employees must be trained to read and to interpret information from their project's MSDSs.

F. Manufacturers/Distributors must provide a MSDS with hazardous materials shipments or deliveries. They are also responsible for providing MSDS revisions when necessary.

G. If a product arrives without a MSDS, it is the project management's responsibility to obtain this data before product use from the manufacturer/distributor.

H. Projects must send a copy of all MSDSs, updates and additions, to the Corporate Safety Department with the project name on the MSDS. must have a central file copy of all MSDSs to meet federal reporting requirements.

I. Be sure to include MSDS copies for all applicable materials being utilized in the associated work activity plan.

If there are any questions regarding Hazard Communication Program, please consult the Hazard Communication Management Handbook (Cookbook) or call the Corporate Safety Department.

HAZARD COMMUNICATION PROGRAM
EMPLOYEE TRAINING SIGN-OFF

I have received training in Hazard Communication Program and I understand my rights and responsibilities regarding known jobsite hazardous substances.

In addition, I have reviewed and understand the following points of Hazard Communication Program:

1. As an employee, I have the right to know, and am obligated to know, what hazardous substances I work with and around at

2. All containers with hazardous substances should be labeled and marked to identify specific safety precautions and hazards. It is my responsibility to help maintain proper labeling on all containers.

3. There is a Material Safety Data Sheet on-site for all project hazardous substances. I know where the jobsite MSDS' are located and how to interpret their information.

Name (Print)	Signature	S/S No.	Date

September 8, 1997

Dover New Hampshire

Material Safety Data Sheets

(arranged alphabetically by product name / trade name)

Product Name	*Manufacturer*
A-788 Splash Zone Compound PTA	Carbolone
Acetylene	Praxair Inc.
Acryl 60	Thoro System Products
Air	Praxair Inc.
Air Brake Antifreeze	Lowe Oil Company
Anti-Fogging Fluid	Vallen Safety Supply Company
Arc Air, Air Carbon, Arc Electrodes	Tweco Products
Argon ARMATEC 110 PART A, B, C	Praxair Inc. SIKA CORP
Baking Soda	Arm & Hammer
Bar & Chain Oil	Spectrum Corp.
Body Filler BONDO P606 LIQUID HARDENER	Martin-Senour Co. BONDO/MARHYDE CORPORATION

Product Name	*Manufacturer*
Brakleen Aerosol	CRC
C-21	Sulpro Masonry System
Coated Abrasives	Aluminum Oxides Arc Abrasives Inc.
Cold Galvanize	LPS Laboratories Inc.
Con Film Consolideck SX E7018	AH HARRIS ProSo Co., Inc.
Contact Adhesive	DAP, Inc.
Cuz Polyester Body Filler	Martin Senour Paints
Covered Electrodes	Lincoln Electric
Daracem 100	W.R. Grace & Co. - Conn
Diamond Core Bits & Diamond Blades	Hilti, Inc.
Diesel Fuel	Irving Oil
Diesel Fuel Conditioner With Anti Gel	Siloo
Diesel Fuel Supplement	Power Service Products
EMACO S-88 Caire 49	Master Builders Technologies
Epoxy Paint	Glidden
Fire Extinguisher	____ Ansul
Fire Extinguisher	AMEREX Corp.

Product Name	*Manufacturer*
Fire Extinguisher	Badger Powhatan
Flux Cored Arc Welding (Ref. MSDS For Product Types)	Hobart
Flux Cored Electrode	Lincoln Electric
Formula Extruded Polystyrene	UC Industries, Inc.
Form Release	A.H. Harris
Gas	GP
Go-Joe HD Hand Cleaner	Go-Joe Inc.
Glass Cleaner	Spray Way Inc.
GPX White Marker	Diagraph Corp.
Grez-Off	Knight Corp.
Grinding Wheels	United Abrasives
HHS 2000	Wurtn Group of North America, Inc
Havoline Dex-Cool Antifreeze	Texaco
Intershield NR232	Lincoln Electric Co.
Jet - LH 8018-03 MR	Lincoln Electric Co.
Jiffy Seal 140/60	Protecto Wrap Company
JS 160H Mastic	Protecto Wrap Company

Product Name	*Manufacturer*
Keligrout	Kelken Construction Systems
K-2 Kerosene	Mobil Oil Corp.
Kerosene	Irving Oil
Lens Cleaning Fluid	Vallen Safety Supply Co.
LP Gas Propane With Odorant	Exxon Co.
Low Sulfur Fuel #2	Irving Oil
Lubriplate Chain Cable Fluid	Fiske Bros.
Lubriplate Gear Shield Extra HD	Fiske Bros.
Mac's Diesel Antigel Fuel Conditioner	Valvoline
Mac's Non Chlorinated Brake Cleaner 4800	Valvoline
Marvel Air Tool Oil	Marvel Oil Company Inc.
Marvel Mystery Oil	Marvel Oil Company Inc.
Mil 7018	Lincoln Electric
Mineral Oil	Not Listed
Mobil Bal 224H	
Mobil Delvac 1200 Super 15w-40	Mobil Oil

[illegible]auct Name	*Manufacturer*
[illegible]il Fluid 424	Mobil Oil
[illegible]il Grease HP	Mobil Oil
[illegible]ex 6011C	Murex
[illegible]ex 7018 Mr	Murex
[illegible]a Antifreeze	B.A.S.F.
[illegible]a Starting Fluid	Napa New England
[illegible]le Kleen #2	Weld-Aid Products
[illegible]gen	Proxair, Inc.
[illegible]gen (Cryogenic Liquid)	Proxair, Inc.
[illegible]t Thinner	Parks Corporation
[illegible]mium Starting Fluid	Valvoline
[illegible]ner #100	Protecto Wrap Co.
[illegible]pylene	Exxon Chemical
[illegible]BAR EPOXY SPRAY (5-62)	AH HARRIS
[illegible]sinoid Bonded Abrasive	Flexovit U.S.A., Inc.
[illegible]st Tough Aerosol Paints	Krylon Ind.
[illegible]P Oil Treatment	First Brand Corp.

Product Name	*Manufacturer*
Scotchkote 312 Liquid Epoxy	3M
Sika Top 111 Plus/ 121 Plus/ 122 Plus/ 123 Plus-Part A	Sika Corp.
Soapstone	Thermacote Welco
Soapstone	Charles B. Chrystal Co. Inc.
Super Kure Seal 309/800/30	A.H. Harris
Super Por-Rok	Minwax
Sure-Seal Lap Sealant	Carlisle Syntec Inc.
Sure Seal - EP 95 Splicing Cement	Carlisle Syntec Inc
Sure Seal Splice Cleaner	Carlisle Syntec Inc.
Therobond	Thero System Products Inc.
Touch N' Foam	Convenience Products
Two Cycle Engine Oil	Kendall
Unleaded Gasoline (Reg.,Plus, Supreme)	Irving Oil
Water Plug	Thero System Products
Water Stoppage	American Colloid Company
WD-40	WD-40 Co.
Windshield Washer Antifreeze	Uni-Gard

File copy

THURO SYSTEM PRODUCTS
7800 N.W. 38th St.
Miami, FL 33166
Phone (305) 592-2081

MATERIAL SAFETY DATA SHEET

Form No.: MSDS-67-2
Date: 1-1-89

SECTION 1 NAME

Material Name:

ACRYL 60

Hazard summary (as defined by OSHA Hazard Communication Standard, 29 CFR 1910.1200):

Physical Hazards: None

Health Hazards: Based on acrylic emulsion, mild irritant (eye, skin) from direct contact, irritant, nose, throat and lungs from inhalation of spray mists or generated during spray application of Acryl 60 modified cement-based mixes.

Read the entire MSDS for a more through evaluation of the hazards.

SECTION 2 INGREDIENTS

SECTION 2 INGREDIENTS	% wgt.	ACGIH TLV (a)	OSHA PEL
Acrylic polymer in aqueous emulsion (NR)	ca 28 (Solids)	NE	NE
Ammonia (7664-41-7)	lt 0.15	25ppm 35ppm STEL	50ppm

Ingredients not precisely identified are proprietary or nonhazardous. Values are not product specifications. gt=greater than, lt=less than, ca=approximately, NR=Not required, NE=Not established, STEL=Short term exposure limit.

SECTION 3 PHYSICAL DATA

Boiling Point: 212oF (water) Freezing Point: 32oF (water)
Vapor Pressure (mmHg at 20oC): = 17 (water)
Vapor Density (air = 1): Heavier
pH: 9.2 - 10.0
Specific gravity: 1.02
% Volatile by Volume: ca 72% (water)
Appearance and Odor: Mikly white liquid. Water - like consistency. Slight ammonia odor.
Solubility in water: Dilutable.

SECTION 4 FIRE AND EXPLOSION HAZARD DATA

Flash point (and method): NA (Non-Combustible)
Autoignition temp.: NA
F[illegible]able limits (STP): NA

primed w/ this then Portland Cement
used for point + patch ?
Building A's

Extinguishing media: Non-combustible.

Special fire fighting protective equipment: MSHA/NIOSH approved self-contained breathing apparatus. See next paragraph and Section 5, "Hazardous decomposition products" for further explanation.

Unusual fire and explosion hazards: Acrylic emulsions will not burn. They may splatter if temperature exceeds boiling point (212oF). Dried polymer films are capable of burning.

SECTION 5 REACTIVITY DATA

Stability: Stable.

Incompatibility (Materials to avoid): Not applicable.

Hazardous decomposition products: Thermal decomposition may yield oxides of carbon.

Hazardous polymerization: Will not occur.

SECTION 6 HEALTH HAZARD ASSESSMENT

General: No toxicity information is available on this specific preparation; this health hazard assessment is based on information that is available on its components.

Ingestion: Relative to other materials, a single dose of this product is practically non-toxic by ingestion. Based on acute toxicity studies for a number of compositionally similar acrylic emulsions the typical oral LD50 (rats): gt 5.0g/kg. This product is approved for incorporation into coatings in contact with potable water (U.S. EPA).

Eye Contact: Direct contact with emulsion may irritate human eyes. In studies of compositionally similar acrylic emulsions, rated as inconsequentially irritating to eyes (rabbit).

Skin Contact: Prolonged or repeated contact may irritate human skin. In skin studies (rabbit) of compositionally similar acrylic emulsions, rated as practically non-irritating.

Skin Absorption: No systemically toxic effects are known to occur in man via absorption of this material through skin. The LD50 dermal (rabbits) is gt 5.0g/kg for compositionally similar acrylic emulsions.

Inhalation: Inhalation of vapor or mist can cause headache, nausea, and may irritate the nose, throat, or lungs. Monomer vapors may be generated if product is heated during processing operations. See Section 9.

Other effects of overexposure: No other adverse clinical effects are known to be associated with exposures to this mixture.

First Aid Procedures:

Skin: Remove contaminated clothing and footwear. Wash thoroughly with soap and water. If irritation persists or develops contact a physician. Wash clothing and decontaminate footwear before reuse.

Eyes: Flood eyes with copious amounts of water for at least 15 minutes. Contact physician if redness or irritation persists.

Ingestion: Give patient 1-2 glasses of water to drink and seek medical attention. Never give anything by mouth to an unconscious person.

Inhalation: Remove person to fresh air. If cough or respiratory symptoms develop or persist (irritation of nose, throat or lungs) consult a physician.

SECTION 7 SPILL OR LEAK PROCEDURES

Steps to be taken in case material is spilled or released: Keep unnecessary people away. Surfaces may be slippery, use caution. Dike and contain spill with inert material (sand, absorbent, earth, etc.). Transfer liquid to containers for recovery or disposal. Transfer solid diking/absorbent material to separate containers for disposal. Keep spills and runoff out of sewers and bodies of water.

Disposal Method: Discarded product is a non-hazardous waste under RCRA criteria (40 CFR, Part 261). However, even small amounts of emulsion will discolor bodies of water. Reuse uncontaminated material when possible. Landfill or incinerate solids and contaminated diking material in accordance with local, state and federal regulations.

Container Disposal: Drain containers completely. Empty containers may retain small amounts of residual product. Observe all hazard precautions when handling empty containers. Puncture or otherwise destroy container and dispose of as non-hazardous waste in accordance with local, state and federal regulations.

SECTION 8 SPECIAL PROTECTION INFORMATION

TLV or Suggested Control Value: No TLV assigned to this mixture. Minimize exposure in accordance with good hygiene practice.

Ventilation: Mechanical local ventilation to keep exposure below the OSHA PEL for nuisance dusts or for the appropriate PEL when incorporated into another product (e.g. for silica if used in a material containing silica. See the product's MSDS for information.)

Respiratory protection (specify type): Not required if good ventilation is maintained. Use appropriate MSHA/NIOSH respirator when dusts or mists are generated for the types and concentrations of air contaminants encountered.

Protective Clothing: Impervious gloves, long trousers, longsleeved shirt, and appropriate footwear recommended to avoid skin contact.

Eye Protection: Chemical splash goggles (ANSI Z-87.1 or approved equivalent).

Other Protective Equipment: Provide eyewash station in workplace.

SECTION 9 SPECIAL PRECAUTIONS OR OTHER COMMENTS

Precautions to be taken in handling or storing: Keep from freezing - product may coagulate. If frozen, thaw at room temperature. If solids are coagulated or "crystallized" product is unusable. Keep out of direct sunlight. Residual monomer content present no problem under normal conditions of use, however high levels of monomer vapors can be released into work areas when emulsions are heat dried or cured (ovens, infrared lamp, etc.) if good ventilation is not used.

SECTION 10 MISCELLANEOUS INFORMATION

FOOTNOTES:

This product is formulated for use as an admixture (additive) to cement-based coatings, plasters, mortars, patching materials, etc., either as supplied or further diluted with water. Its primary function is to enhance the chemical and physical characteristics of the material it is added (e.g. adhesion, compressive, tensile and flexural strengths, chemical resistance, etc.). Acryl 60 presents virtually no physical or health hazards to the user under normal conditions of use, however the user is advised to obtain, read and observe all precautions presented in the Material Safety Data Sheet (MSDS) for the products/materials to which Acryl 60 may be added. Read and follow label directions and technical bulletin number 67 for this product.

The information herein is given in good faith but no warranty, expressed or implied, is made.

Prepared/Revised by:

Title: Manager of Health, Safety and Environmental Affairs

Signature:

Date: 10/1/88

For Additional Information: Contact individual listed above at write:

c/o Thoro System Products, Inc.
P.O. Box 127
Centerville, IN 47330

3033300

Coplay

Date: _____

Material Safety Data Sheet for Portland Cement

ESSROC

Section I—Identity

Manufacturer's name and address: Coplay Cement Company—ESSROC Materials, Inc.
P. O. Box 32, Route 248
Nazareth, PA 18064

Emergency Telephone Number: (215) 837-6725 Corporate Headquarters
(215) 759-2295 Nazareth, PA Plant

Chemical Name and Synonyms: Portland Cement (CAS #65997-15-1)

Trade name and synonyms: Type I, IA, ID, IWP, II, III, IIIA and Block

Section II—Chemical Data

Chemical family: Calcium Salts

Formula: Portland cement consists of finely ground portland cement clinker mixed with a small amount of calcium sulfate to control set. Portland cement clinker is a sintered material produced by heating to high temperatures (greater than 1200 degrees celsius) a mixture of substances such as limestone and shale from the earth's crust. The substances manufactured are essentially hydraulic calcium silicates contained in a crystalline mass, not separable into the individual components.

Substances similar to the following are known to be present in portland cement:

$3CaO.SiO_2$	(CAS # 12168-85-3)
$2CaO.SiO_2$	(CAS # 10034-77-2)
$3CaO.Al_2O_3$	(CAS # 12042-78-3)
$4CaO.Al_2O_3.Fe_2O_3$	(CAS # 12068-35-8)
$CaSO_4.XH_2O$	(CAS # 13397-24-5)

Small amounts of CaO, MgO, K_2SO_4, Na_2SO_4 may also be present.

Section III—Hazardous Ingredients

Ingredients: Portland cements are listed by OSHA in 29 CFR1910.1000, Table Z-1-A, and require material safety data sheets (*FR*, January 19, 1989). MSHA (30 CFR 55.5.-1, Ref. 2, ACGIH TLV's for 1973, Appendix E) and ACGIH (TLV's for 1984-5, Appendix D) list portland cements as nuisance dusts. Portland cements are *NOT* listed by NTP, IARC, OR OSHA as carcinogens. However, since portland cement is manufactured from raw materials mined from the earth (limestone, marl, sand, shale, clay, etc.) and process heat is provided by burning fossil fuels, trace, but detectable, amounts of naturally occurring, and possibly harmful elements may be found during chemical analysis. Under ASTM standards, portland cement may contain .75 percent insoluble residue. A fraction of these residues may be free crystalline silica.

Section IV—Physical Data

Boiling Point: Not applicable, portland cement is a powdered solid.

Vapor Pressure: Not applicable, portland cement is a powdered solid.

Vapor Density: Not applicable, portland cement is a powdered solid.

Solubility in Water: Slight (0.1–1.0%)

Specific Gravity: (H_2O=1) 3.15

Evaporation Rate: Not applicable, portland cement is a powdered solid.

Appearance and Odor: Gray or white powder; no odor.

Melting Point: Not applicable.

Section V—Fire and Explosion Hazard Data

Flash Point: Portland cements are noncombustible and not explosive.

Flammable or Explosive Limits: Not applicable.

Extinguishing Media: Not applicable.

Special Firefighting Procedures: Not applicable.

Unusual Fire and Explosion Hazards: None.

Lower Explosive Limit: Not applicable.

Upper Explosive Limit: Not applicable.

Section VI—Health Hazard Data

ACGIH Threshold Limit Value (1988-89): Total dust containing no asbestos and less than 1% silica—10 mg/m³

OSHA PEL (Transitional): Total dust—50 million particles/ft³

OSHA PEL (Final): Total dust—10 mg/m³
Respirable Dust—5 mg/m³

Effects of Overexposure:

Acute: Wet cement, especially as an ingredient in plastic (unhardened) concrete, mortar or slurries, can dry the skin and cause caustic burns. Direct contact with the eyes can cause irritation. Inhalation can irritate the upper respiratory system.

Chronic: Cement dust can cause inflammation of the lining tissue of the interior of the nose and inflammation of the cornea. Hypersensitive individuals may develop an allergic dermatitis. [Cement may contain trace (less than 0.05%) amounts of chromium salts or compounds including hexavalent chromium, or other metals found to be hazardous or toxic in some chemical forms. These metals are mostly present as trace substitutions within the principal minerals.]

Emergency and First Aid Procedures: Irrigate eyes immediately and repeatedly with water and get prompt medical attention. Wash exposed skin areas with soap and water. Apply sterile dressings. If ingested, consult a physician immediately. Drink water.

Section VII—Reactivity Data

Stability: Product is stable. Keep dry until used.

Incompatibility: Aluminum powder and other alkali and alkaline earth elements will react in wet mortar or concrete, liberating hydrogen gas.

Hazardous Decomposition Products: None.

Hazardous Polymerization: Will not occur.

Section VIII—Spill Procedures

Steps to be taken in case material is spilled: Use dry cleanup methods that do not disperse the dust into the air. Avoid breathing the dust. Emergency procedures are not required.

Disposal Method: Small amounts of material can be disposed of as common waste or returned to the container for later use if it is not contaminated. Large volumes may require special handling.

Section IX—Special Protection Information

Respiratory Protection: In dusty environments, the use of a MSHA/NIOSH-approved respirator is recommended.

Ventilation: Local exhaust can be used to control airborne dust levels.

Eye Protection: Use tight fitting goggles in dusty environments.

Skin Protection: Use barrier creams, impervious, abrasion- and alkali-resistant gloves, boots and protective clothing to protect the skin from prolonged contact with wet cement in plastic concrete, mortar or slurries. Immediately after working with cement or cement-containing materials, workers should shower with soap and water. Precautions must be taken. Cement burns with little warning—little heat is sensed.

Section X—Abbreviations

ACGIH	American Conference of Governmental Industrial Hygienists
ASTM	American Society for Testing and Materials
CAS	Chemical Abstract Service
CFR	Code of Federal Regulations
ft^3	Cubic foot
IARC	International Agency for Research on Cancer
m^3	Cubic Meter
mg	Milligram
MSHA	Mine Safety and Health Administration
NIOSH	National Institute for Occupational Safety and Health
NTP	National Toxicology Program
OSHA	Occupational Safety and Health Administration
PEL	Permissible Exposure Limit
TLV's	Threshold Limit Values

Note: This material safety data sheet attempts to describe as accurately as possible the potential exposures associated with normal cement use. Health and safety precautions in this data sheet may not be adequate for all individuals and/or situations. Users have the responsibility to evaluate and use this product safely and to comply with all applicable laws and regulations.

MSDS PREPARED BY: Environmental Health Dept.-Grace Construction Products
W.R.Grace & Co.-Conn.
62 Whittemore Ave.
Cambridge, MA 02140

W. R. Grace & Co. of Canada Ltd.
294 Clements Rd. West
Ajax, Ontario, L1S 3C6

Telephone Number for Information and Emergency Response
In USA: (617) 876-1400
In Canada: (416) 683-8561

MSDS Number: D-05336 000USA Cancels MSDS # D-05262 Date: 08/16/1993

SECTION 1 - PRODUCT IDENTIFICATION

Trade Names and Synonyms: FORCE 10,000 D
(SEE SECTION 12 FOR ADDITIONAL PRODUCT IDENTIFICATION)

Chemical Names and Family: Condensed Amorphous Silica Fume
High Strength Concrete Additive

Product Use: High Strength Concrete Additive

Formula: SiO_2

CAS# (Chemical Abstract Service): 69012-64-2

Transportation Hazard Classification

United States DOT		Canadian Regulations
PROPER SHIPPING NAME:	Not Applicable	IDG CLASS: Nonhazardous
HAZARD CLASS:	Nonhazardous	
IDENTIFICATION #:	Not Applicable	
LABEL(s) REQUIRED:	Not Applicable	

Surface Freight Classification: SILICA, N.O.I.

NPCA-HMIS Hazard Index:

- Health: 2
- Flammability: 1
- Reactivity: 0
- Personal Protection: E (See Section 8)

SECTION 2 - HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

INGREDIENT (Chemical Name, CAS#, & Common Name)	% By Wt.	TOXICITY DATA: LD_{50} & LC_{50} (See Section 9 for Exposure Limits)
Silica, Fume CAS# 69012-64-2	100	LD_{50} (oral, rat) 3160mg/m ^{3}

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SECTION 3 - PHYSICAL DATA/CHEMICAL CHARACTERISTICS

Boiling Point: Not Applicable

Specific Gravity(H_2O=1) Not Applicable

Vapor Pressure (mm Hg.) Not Applicable

% Volatiles None

Vapor Density(AIR = 1) Not Applicable

Evaporation Rate (Butyl Acetate = 1) Not Applicable

Solubility in Water: Negligible

pH 5-7 (Solution)

Bulk Density (#/cu. ft): 20-40

Appearance and Odor: Light to dark grey powder. Earthy odor.

Odor Threshold:
Not Applicable

SECTION 4 - FIRE AND EXPLOSION HAZARD DATA

Flash Point: Not Applicable

Method Used:

Flammable Limits:
LEL None UEL None

N.F.P.A. Rating: H-1 F-1 R-0

Extinguishing Media

Not Applicable

Special Fire Fighting Procedures

None

Unusual Fire and Explosion Hazards

Dry powdered materials can build static electrical charges when subject to friction.

SECTION 5 - REACTIVITY DATA

Stable under normal conditions (yes or no): YES

Conditions or Materials to avoid (which may react or cause instability):

None Known

Hazardous Decomposition or Byproducts:

Product does not decompose.

Hazardous Polymerization:

Will Not Occur

Conditions to Avoid:

Not Applicable

SECTION 6 - HEALTH HAZARD DATA & TOXICOLOGICAL PROPERTIES

Routes of Exposure:

Inhalation:

This product contains micron-sized particles which can become airborne. Exposure to excessive airborne dust may cause irritation to the respiratory system resulting in coughing or sneezing, shortness of breath and wheezing. Inhalation may also aggravate chronic respiratory conditions such as asthma or bronchitis.

Skin and Eye:

Excessive dust may cause unpleasant deposit in eyes and cause irritation if rubbed.

Fine powder may block pores in skin leading to irritation or skin rash. May also cause drying of the skin which can result in dermatitis.

Ingestion:

Oral toxicity is low and, therefore, not expected to be harmful if swallowed in small amounts.

Carcinogenicity According to NTP, IARC and OSHA:

Not Applicable

SECTION 7 EMERGENCY AND FIRST AID PROCEDURES

EYE:	In case of contact, immediately flush with plenty of water. Consult a physician if irritation develops and persists.
SKIN:	In case of contact, wash with soap and water.
INHALATION:	If inhaled, get fresh air. If symptoms develop and persist, consult a physician.
INGESTION:	If swallowed, do not induce vomiting. Give victim a glass of water. Consult a physician. Never give anything by mouth to an unconscious person.

SECTION 8 - PREVENTIVE & CONTROL MEASURES

Warning Statements:
WARNING! MAY CAUSE IRRITATION.

... Contains Condensed Silica Fume CAS# 69012-64-2.
... Inhalation of dust may cause respiratory irritation resulting in coughing, sneezing and other nuisance symptoms.
... Eye contact may cause slight physical or mechanical irritation.
... Prolonged or repeated use may cause skin irritation and dryness.

Precautionary Measures:
... Avoid creating dust.
... Equip mixers and hoppers with dust covers.
... Provide ventilation and respiratory protection.
... Avoid contact with skin and eyes.
... Wear skin and eye protection to avoid contact with dust.
... Keep out of children's reach.

Respiratory Protection:
Respiratory protection is recommended if dust is created while handling this product. A NIOSH-approved dust mask (Type TC-21C-XXX) is mandatory if ventilation and engineering controls cannot prevent exposure above the limits specified in Section 9. Silica Fume has micron-sized particles. If irritation or breakthrough occurs while using a dust mask, a half-face respirator with HEPA Filters is suggested.

Ventilation:

Local Exhaust:	Exhaust fans may be necessary in enclosed areas.
Mechanical:	Exhaust fans may be necessary in enclosed areas.
Special:	Not Applicable
Other:	Not Applicable

Skin Protection:
Cotton or leather work gloves are normally appropriate. If irritation is noted, impervious gloves should be worn.

Eye Protection:
Safety goggles are recommended to prevent exposure if excessive airborne dust is created.

Other Protective Clothing or Equipment:
Normal work clothes.

Work/Hygienic Practices:
Use bag opening and disposal procedures which minimize dust release

SECTION 9 - HAZARDOUS INGREDIENTS EXPOSURE LIMITS - U.S. Only

INGREDIENT:	Exposure Limits OSHA	ACGIH	OTHER
SILICA, FUME CAS# 69012-64-2	None Established	TLV/TWA: 2mg/m^3 (Respirable Dust)	
TOTAL DUST* CAS# NA	PEL/TWA: 15 mg/m^3	TLV/TWA: 10 mg/m^3	None Established

SECTION 10 - SPILL & DISPOSAL INFORMATION - U.S. Only

If product is spilled, observe precautions noted above. Collect using methods which minimize creating dust and remove for disposal. Dispose of all waste in accordance with federal, state and local regulations.

This product contains trace quantities of lead and other heavy metals. Due to the variable lead content, this product must be tested prior to disposal. If a representative sample is not tested, you must assume that this product has a RCRA Classification of Lead Toxicity with the EPA Hazardous Waste Number D0008.

EP TOXICITY TEST SUMMARY (MG/LITER)

	SILVER	BARIUM	CADIUM	CHROMIUM	LEAD
RANGE	<0.01-<0.1	0.11-1.55	<0.01-<0.1	<0.1-1.04	0.27-19.7
EPA MAX.	5.0	100.0	1.0	5.0	5.0

	ARSENIC	SELENIUM	MERCURY
RANGE	0.14-0.86	<0.01-<0.3	<0.0005-.014
EPA MAX.	5.0	1.0	0.2

SECTION 11 - GOVERNMENT REPORTING INFORMATION - U. S. Only

SARA Title III Reporting Information
Tier I & II Hazard Categories: IMMEDIATE (ACUTE) HEALTH

Contains Extremely Hazardous-SARA III Section 302 Ingredient: NO
Comments:

Contains Toxic Chemical Release-SARA III Section 313 Ingredient: NO
Comments:

Other Government Reporting Requirements:

California Proposition 65 Information:

WARNING! This product contains one or more chemicals known to the state of California to cause cancer, birth defects or other reproductive harm.

See Section 10 for RCRA information.

Non-Hazardous Ingredient Disclosure:
Not Applicable

SECTION 12 - PRODUCT IDENTIFICATION/TRADENAME ADDENDUM

The information contained in this Material Safety Data Sheet is applicable to the following products:

FORCE 10,000 D

"THE DATA INCLUDED HEREIN ARE PRESENTED ACCORDING TO W. R. GRACE & CO.-CONN's PRACTICES CURRENT AT THE TIME OF PREPARATION HEREOF, ARE MADE AVAILABLE SOLELY FOR THE CONSIDERATION, INVESTIGATION AND VERIFICATION OF THE ORIGINAL RECIPIENTS HEREOF AND DO NOT CONSTITUTE A REPRESENTATION OR WARRANTY FOR WHICH GRACE ASSUMES LEGAL RESPONSIBILITY. IT IS THE RESPONSIBILITY OF THE RECIPIENT OF THIS DATA TO REMAIN CURRENTLY INFORMED ON CHEMICAL HAZARD INFORMATION, TO DESIGN AND UPDATE ITS OWN PROGRAM AND TO COMPLY WITH ALL NATIONAL, FEDERAL, STATE AND LOCAL LAWS AND REGULATIONS APPLICABLE TO SAFETY, OCCUPATIONAL HEALTH, RIGHT-TO-KNOW AND ENVIRONMENTAL PROTECTION."

MATERIAL SAFETY DATA SHEET

Manufacturer/Supplier: Stirling Lloyd Products, Inc.
Address: 700 Canal Street, Stamford, CT 06902
Telephone: 203-328-3771 (for information/emergency)
Fax : 203-328-3770

SECTION 1 - MATERIAL IDENTIFICATION AND INFORMATION

Trade Name: TACK COAT SA1020 / SA1030
Chemical Name: Modified bitumen in hydrocarbon resin.
Application: Hot melt adhesive for the bonding of hot-applied bituminous materials to Eliminator waterproofing membrane.

Components*	Trade Secret Registry Numbers	CAS No.	Weight %	OSHA PEL	ACGIH TLV
Bitumen[2,5,6]		SEQ-65-3	<65	None	None
Hydrocarbon resin[5]	NJ 80100283-5020p	Trade secret	Trade secret	None	None
Ester[5]	NJ 80100283-5010p	Trade secret	Trade secret	None	None

*These components are subject to the following reporting requirements as noted above:
[1] SARA Title III Section 304 [2] SARA Title III Section 311-312 [3] SARA Title III Section 313
[4] M.G.L. c.111F Section 5 [5] N.J.A.C. 8:59-2 [6] 34 P.C. Section 305

SECTION 2 - PHYSICAL/CHEMICAL CHARACTERISTICS

Appearance and Odor: Black solid with characteristic bituminous odor.
Odor Threshold: Not available
Specific Gravity ($H_2O = 1$): 1.06
Vapor Pressure: Not applicable
Vapor Density (Air = 1): Not applicable
Evaporation Rate (Butyl acetate = 1): Not applicable
Boiling Point: Not available
Melting Point: 167-212F (75-100C)
pH: Not available
Coefficient of Water/Oil Distribution: Not applicable
Water Reactive: No

SECTION 3 - FIRE AND EXPLOSION HAZARD DATA

Flash Point: >212F (100C) COC
Auto-Ignition Temperature: Not available
Flammability Limits in Air % by Volume LEL: Not available
UEL: Not available
Extinguisher Media: Alcohol foam, carbon dioxide.
Special Fire Fighting Procedures: Evacuate area. Wear self-contained breathing apparatus (NIOSH/MSHA -approved) and protective clothing. Maintain safe distance or protected location.
Unusual Fire and Explosion Hazards: None

SECTION 4 - REACTIVITY HAZARD DATA

STABILITY Stable: X Unstable:
Conditions to Avoid: None
Incompatibility (Materials to Avoid): None
Hazardous Decomposition/ Combustion Products: None
HAZARDOUS POLYMERIZATION: May Occur: Will Not Occur: X
Conditions to Avoid: None

SECTION 5 - HEALTH HAZARD DATA

PRIMARY ROUTES OF ENTRY: Eye Contact: X Inhalation: X Ingestion: Skin Absorption: X Skin Contact: X Not Hazardous:
TLV (ACGIH): See Section 1
PEL (OSHA): See Section 1

TOXICOLOGICAL DATA -
LC 50: Not available
LD 50: Not available
Carcinogen Listed In
NTP: No
OSHA: No
IARC Monograph: No
C.H.S.C. Section 25249.5: Yes (Bitumen)

Products made by Centurion

Mutagenicity:	Not available
Reproductive Toxicity:	Not available
Teratogenicity:	Not available
Name of Toxicologically Synergistic Products:	Not available

HEALTH HAZARDS -

Acute:	Irritant to eyes, skin and respiratory system. The material is used at high temperature and the immediate hazard is one of burns from hot material.
Chronic:	None known.
Signs and Symptoms of Exposure:	Burns, dermatitis, headache, nausea.
Medical Conditions Generally Aggravated by Exposure:	Asthma, dermatitis, respiratory diseases.

EMERGENCY FIRST AID PROCEDURES - Seek immediate medical assistance for further treatment, observation and support.

Eye Contact:	Flush eyes with running cold water for several minutes.
Skin Contact:	Wash skin thoroughly with soap and water. Remove contaminated clothing. Burns caused by contact with hot material should be cooled immediately by drenching with cold water. The material may then be removed under medical supervision.
Inhalation:	Move patient to fresh air; keep warm and at rest. Loosen clothing.

SECTION 6 - CONTROL AND PROTECTIVE MEASURES

Respiratory Protection:	Normally not required at ambient temperature. Self-contained apparatus during emergencies.
Protective Gloves:	Impervious, heat-resistant.
Eye Protection:	Splash-proof goggles meeting ANSI Z87.1 - 1989.

VENTILATION TO BE USED:

Local Exhaust:	Cross-ventilation.
Mechanical:	Ventilation at point of operation.
Other Protective Clothing and Equipment:	Clothing based on impervious, anti-static materials, eye baths, fire extinguishers, safety showers.
Hygienic Work Practices:	Wash hands thoroughly after use. Dispose of contaminated clothing.

SECTION 7 - PRECAUTIONS FOR SAFE HANDLING AND USE/LEAK PROCEDURES

Steps to be Taken if Material is Spilled or Released:	Wear protective gear. Collect with non-sparking tools and place in leak-proof containers for disposal. Prevent spills from reaching sewers and open bodies of water.
Waste Disposal Methods:	Dispose of in accordance with current local, state and federal regulations.
Precautions to be Taken in Handling and Storage:	Storage must be restricted to cool, dry areas meeting OSHA standards. Maximum storage temperature 77F (25C).
Other Precautions and/or Special Hazards:	None
NFPA Rating:	Health: 2 Flammability: 0 Reactivity: 0 Special: Not applicable

SECTION 8 - SHIPPING INFORMATION

Proper DOT Shipping Name:	Not regulated
Hazard Class:	Not applicable
Reportable Quantity (RQ):	None
Label:	None required
UN No:	Not applicable
UN Class:	Not applicable
Packaging Group:	Not applicable
NMFTA Item:	4620
Class:	
Authorized Container:	33 lb (15 kg) fibreboard box.

Prepared by:	Technical Director
Date:	05/92
Supersedes:	07/19/91

MATERIAL SAFETY DATA SHEET

Manufacturer/Supplier: Stirling Lloyd Products, Inc.
Address: 700 Canal Street, Stamford, CT 06902
Telephone: 203-328-3771 (for information/emergency)
Fax: 203-328-3770

SECTION 1 - MATERIAL IDENTIFICATION AND INFORMATION

Trade Name: ELIMINATOR S/HM/UHM Component B
Chemical Name: Methyl methacrylate - based dispersion
Application: Waterproofing membrane for concrete and steel.

Components*	Trade Secret Registry Numbers**	CAS No.	Weight %	OSHA PEL	ACGIH TLV
Acrylic polymer[5]	NJ 80100283-5013p	Trade secret	Trade secret	None	None
Inorganic filler[2,4-6]	NJ 80100283-5006p	Trade secret	Trade secret	15 mg/m^3 total	10 mg/m^3 total
Methyl methacrylate (MMA)[1-6]		80-62-6	<15	100 ppm	100 ppm
Ester[4-6]	NJ 80100283-5000p	Trade secret	Trade secret	None	None
Inorganic filler[2,5]	NJ 80100283-5007p	Trade secret	Trade secret	20 mppcf total	0.1 mg/m^3 respirable
Inorganic filler[2,4-6]	NJ 80100283-5006p	Trade secret	Trade secret	10 mg/m^3 total	5 mg/m^3 total
Titanium dioxide[2,3,5,6***]		13463-67-7	<2	15 mg/m^3 total	10 mg/m^3 total

*These components are subject to the following reporting requirements as noted above:
[1] SARA Title III Section 304 [2] SARA Title III Section 311-312 [3] SARA Title III Section 313
[4] M.G.L. c.111F Section 5 [5] N.J.A.C. 8:59-2 [6] 34 P.C. Section 305

**Trade secret registry numbers for the product as a whole have been assigned as follows:
Massachusetts TS-99-243-005

***Present in white or grey formulations only.

SECTION 2 - PHYSICAL/CHEMICAL CHARACTERISTICS

Appearance and Odor: Grey, white, or yellow thixotropic liquid with characteristic methacrylate odor (sweet ester odor).
Odor Threshold: MMA <0.34 ppm
Specific Gravity (H_2O=1): 1.13 - 1.16
Vapor Pressure: MMA 40 mm @ 77.9F (25.5C)
Vapor Density (Air = 1): MMA 3.45
Evaporation Rate (Butyl acetate =1): >1
Boiling Point: MMA 214F (101C)
Melting Point: MMA - 68F (-50C)
pH: Not available
Coefficient of Water/Oil Distribution: Not applicable
Water Reactive: No

SECTION 3 - FIRE AND EXPLOSION HAZARD DATA

Flash Point: 52.7F (11.5C) CC
Auto-ignition Temperature: MMA 790F (421C)
Flammability Limits in Air
% by Volume LEL: MMA 2.1%
UEL: MMA 12.5%
Extinguisher Media: Alcohol foam, carbon dioxide, dry chemical, water fog, cover with sand.
Special Fire Fighting Procedures: Evacuate area. Wear self-contained breathing apparatus (NIOSH/MSHA -approved) and protective clothing. Use water spray to cool warm or bulging containers. Maintain safe distance or protected location. Carefully loosen bung valve to vent pressure. Reclose and dispose of container.
Unusual Fire and Explosion Hazards: Vapor is heavier than air and forms explosive mixture @ 21000 ppm, 1 atm (760 mm Hg), 77F (25C). Vapor may travel to distant source of ignition and flash back. Heat, aging or contamination can lead to polymerization and/or violent rupture of sealed containers.

SECTION 4 - REACTIVITY HAZARD DATA

STABILITY Stable: X Unstable:
Conditions to Avoid: Aging, electrostatic buildup, heat, ignition sources, sunlight. Maintain fresh air supply in storage area. Allow air space over liquid within containers.
Incompatibility (Materials to Avoid): Radical sources (e.g. acids, alkalies, amines, azo compounds, heavy metal ions, peroxides, rust, sulfur compounds), other foreign matter. Paints and various plastics can be softened/dissolved by this material.
Hazardous Decomposition/ Combustion Products: Water, oxides of carbon.
HAZARDOUS POLYMERIZATION May Occur: X Will Not Occur:
Conditions to Avoid: Contamination with radical source or other foreign matter, heat, sunlight.

[illegible]EALTH HAZARD DATA

[illegible]Y ROUTES OF ENTRY	Eye Contact: X Inhalation: X Ingestion: Skin Absorption: X Skin Contact: X Not Hazardous:
[illegible]GIH:	See Section 1
[illegible]OSHA:	See Section 1
TOXICOLOGICAL DATA	
LC 50:	MMA 3750 ppm rat lhl, others not available
LD 50:	Ester 13600 mg/kg mus orl, MMA 9400 mg/kg rat orl, others not available
Carcinogen Listed in:	
NTP:	No
OSHA:	No
IARC Monograph:	No
C.H.S.C. Section 25249.5:	No
Mutagenicity:	Not available
Reproductive Toxicity:	Not available
Teratogenicity:	Not available
Name of Toxicologically Synergistic Products:	Not available

HEALTH HAZARDS

Acute:	Irritant to eyes, skin and respiratory system. Do not wear contact lenses when using this product.
Chronic:	None known.
Signs/Symptoms of Exposure:	Dermatitis, dizziness, drowsiness, headache, nausea, unconsciousness.
Medical Conditions Generally Aggravated by Exposure:	Conjunctivitis of the eye, dermatitis, asthma, respiratory diseases.

EMERGENCY FIRST AID PROCEDURES - Seek immediate medical assistance for further treatment, observation and support.

Eye Contact:	Flush eyes with running cold water for several minutes.
Skin Contact:	Wash skin thoroughly with soap and water. Remove contaminated clothing.
Inhalation:	Move patient to fresh air; keep warm and at rest. Loosen clothing.
Ingestion:	If conscious, dilute by giving two glasses of water to drink. Do not induce vomiting. If unconscious, transport to hospital.

SECTION 6 - CONTROL AND PROTECTIVE MEASURES

Respiratory Protection:	NIOSH/MSHA-approved organic vapor respirator when exposure limits are exceeded; self-contained apparatus during emergencies.
Protective Gloves:	Impervious, e.g. neoprene.
Eye Protection:	Splash-proof goggles meeting ANSI Z87.1 - 1989.

VENTILATION TO BE USED

Local Exhaust:	Cross-ventilation when within exposure limits.
Mechanical:	Explosion-proof ventilation at point of operation when limits are exceeded.
Other Protective Clothing and Equipment:	Clothing based on impervious, anti-static materials, eye baths, fire extinguishers, safety showers.
Hygienic Work Practices:	Wash hands thoroughly after use. Dispose of contaminated clothing.

SECTION 7 - PRECAUTIONS FOR SAFE HANDLING AND USE/LEAK PROCEDURES

Steps to be Taken if Material is Spilled or Released:	Evacuate area. Eliminate ignition sources. Wear protective gear. Dike and absorb spill with inert material (e.g. sand, sawdust, vermiculite, etc.). Collect with non-sparking tools and place in leak-proof containers for disposal. Prevent spills from reaching sewers and open bodies of water. Report spills in excess of RQ to local authorities.
Waste Disposal Methods:	Polymerization to solid with Component A and 50% benzoyl peroxide powder, or dispose of in accordance with current local, state and federal regulations.
Precautions to be Taken in Handling and Storage:	Protect from sunlight and contamination. Indoor storage must be restricted to areas meeting NFPA/OSHA standards with overhead sprinklers. Avoid ignition sources; no smoking. Maintain fresh air supply in storage areas. Allow air space over liquid within containers. Ground all containers when transferring liquid; keep closed when not in use. Advisable to use within six (6) months. Maximum storage temperature 90F (32C).
Other Precautions and/or Special Hazards:	Containers remain hazardous when empty. Product residue is hazardous and flammable. Do not cut, drill, torch, or weld on or near containers. Do not reuse.
NFPA Rating:	Health: 2 Flammability: 3 Reactivity: 2 Special: Not applicable

SECTION 8 - SHIPPING INFORMATION

Proper DOT Shipping Name:	Resin Solution
Hazard Class:	Flammable Liquid
Reportable Quantity (RQ):	MMA 1000 lbs (454 kg)
Label:	Flammable Liquid
UN No:	1866
Class:	3
Packaging Group:	II
NMFTA Item:	156240
Class:	60
Authorized Container:	55 lb (25 kg) pail or 418 lb (190 kg) drum meeting UN1A1, UN1A2, UN1H1, or UN1H2

Prepared by:	Technical Director
Date:	05/92
Supersedes:	06/91

MATERIAL SAFETY DATA SHEET

Manufacturer/Supplier: Stirling Lloyd Products, Inc.
Address: 2701 Summer Street, Suite 200, Stamford, CT 06905
Telephone: 203-363-2084 (for information/emergency)
Fax: 203-363-2184

SECTION 1 - MATERIAL IDENTIFICATION AND INFORMATION

Trade Name: ELIMINATOR S/HM/UHM Component A
Chemical Name: Methyl methacrylate - based dispersion
Application: Waterproofing membrane for concrete and steel.

Components*	Trade Secret Registry Numbers**	CAS No.	Weight %	OSHA PEL	ACGIH TLV
Acrylic polymer (non-hazardous)[5]	NJ 80100283-5013p	Not applicable	15-40	None	None
Calcium carbonate[2,4-6]		1317-65-3	10-30	15 mg/m^3 total	10 mg/m^3 total
Methyl methacrylate (MMA)[1-6]		80-62-6	10-30	100 ppm	100 ppm
n-Butyl methacrylate[4-6]		97-88-1	10-30	None	None
Silica, amorphous, fumed[2,5]		7631-86-9	1-5	20 mppcf total	0.1 mg/m^3 respirable

*These components are subject to the following reporting requirements as noted above:
[1] SARA Title III Section 304 [2] SARA Title III Section 311-312 [3] SARA Title III Section 313
[4] M.G.L. s.111F Section 5 [5] N.J.A.C. 8:59-2 [6] 34 P.C. Section 306

**Trade secret registry numbers for the product as a whole have been assigned as follows:
Massachusetts TS-99-243-004

SECTION 2 - PHYSICAL/CHEMICAL CHARACTERISTICS

Appearance and Odor: Beige thixotropic liquid with characteristic methacrylate odor (sweet ester odor).
Odor Threshold: MMA <0.34 ppm
Specific Gravity (H_2O = 1): 1.13 - 1.16
Vapor Pressure: MMA 40 mm @ 77.9F (25.5C)
Vapor Density (Air = 1): MMA 3.45
Evaporation Rate (Butyl acetate = 1): >1
Boiling Point: MMA 214F (101C)
Melting Point: MMA - 58F (-50C)
pH: Not available
Coefficient of Water/Oil Distribution: Not applicable
Water Reactive: No

SECTION 3 - FIRE AND EXPLOSION HAZARD DATA

Flash Point: 52.7F (11.5C) CC
Auto-Ignition Temperature: MMA 790F (421C)
Flammability Limits in Air % by Volume LEL: MMA 2.1%
UEL: MMA 12.5%
Extinguisher Media: Alcohol foam, carbon dioxide, dry chemical, water fog, cover with sand.
Special Fire Fighting Procedures: Evacuate area. Wear self-contained breathing apparatus (NIOSH/MSHA -approved) and protective clothing. Use water spray to cool warm or bulging containers. Maintain safe distance or protected location. Carefully loosen bung valve to vent pressure. Reclose and dispose of container.
Unusual Fire and Explosion Hazards: Vapor is heavier than air and forms explosive mixture @ 21000 ppm, 1 atm (760 mm Hg), 77F (25C). Vapor may travel to distant source of ignition and flash back. Heat, aging or contamination can lead to polymerization and/or violent rupture of sealed containers.

SECTION 4 - REACTIVITY HAZARD DATA

STABILITY Stable: X Unstable:
Conditions to Avoid: Aging, electrostatic buildup, heat, ignition sources, sunlight. Maintain fresh air supply in storage area. Allow air space over liquid within containers.
Incompatibility (Materials to Avoid): Radical sources (e.g. acids, alkalies, amines, azo compounds, heavy metal ions, peroxides, rust, sulfur compounds), other foreign matter. Paints and various plastics can be softened/dissolved by this material.
Hazardous Decomposition/ Combustion Products: Water, oxides of carbon.
HAZARDOUS POLYMERIZATION May Occur: X Will Not Occur:
Conditions to Avoid: Contamination with radical source or other foreign matter, heat, sunlight.

SECTION 5 - HEALTH HAZARD DATA

PRIMARY ROUTES OF ENTRY Eye Contact: X Inhalation: X Ingestion: Skin Absorption: X Skin Contact: X Not Hazardous:

TLV (ACGIH): See Section 1
PEL (OSHA): See Section 1

TOXICOLOGICAL DATA

LC 50: MMA 3750 ppm rat ihl, others not available
LD 50: MMA 9400 mg/kg rat orl, n-BuMA 13500 mg/kg mus orl, others not available.

Carcinogen Listed in
- NTP: No
- OSHA: No
- IARC Monograph: No
- C.H.S.C. Section 25249.5: No

Mutagenicity: Not available
Reproductive Toxicity: Not available
Teratogenicity: Not available
Name of Toxicologically Synergistic Products: Not available

HEALTH HAZARDS

Acute: Irritant to eyes, skin and respiratory system. Do not wear contact lenses when using this product.
Chronic: None known.
Signs/Symptoms of Exposure: Dermatitis, dizziness, drowsiness, headache, nausea, unconsciousness.
Medical Conditions Generally Aggravated by Exposure: Conjunctivitis of the eye, dermatitis, asthma, respiratory diseases.

EMERGENCY FIRST AID PROCEDURES - Seek immediate medical assistance for further treatment, observation and support.

Eye Contact: Flush eyes with running cold water for several minutes.
Skin Contact: Wash skin thoroughly with soap and water. Remove contaminated clothing.
Inhalation: Move patient to fresh air; keep warm and at rest. Loosen clothing.
Ingestion: If conscious, dilute by giving two glasses of water to drink. Do not induce vomiting. If unconscious, transport to hospital.

SECTION 6 - CONTROL AND PROTECTIVE MEASURES

Respiratory Protection: NIOSH/MSHA-approved organic vapor respirator when exposure limits are exceeded; self-contained apparatus during emergencies.
Protective Gloves: Impervious, e.g. neoprene.
Eye Protection: Splash-proof goggles meeting ANSI Z87.1 - 1989.

VENTILATION TO BE USED

Local Exhaust: Cross-ventilation when within exposure limits.
Mechanical: Explosion-proof ventilation at point of operation when limits are exceeded.
Other Protective Clothing and Equipment: Clothing based on impervious, anti-static materials, eye baths, fire extinguishers, safety showers.
Hygienic Work Practices: Wash hands thoroughly after use. Dispose of contaminated clothing.

SECTION 7 - PRECAUTIONS FOR SAFE HANDLING AND USE/LEAK PROCEDURES

Steps to be Taken if Material is Spilled or Released: Evacuate area. Eliminate ignition sources. Wear protective gear. Dike and absorb spill with inert material (e.g. sand, sawdust, vermiculite, etc.). Collect with non-sparking tools and place in leak-proof containers for disposal. Prevent spills from reaching sewers and open bodies of water. Report spills in excess of RQ to local authorities.

Waste Disposal Methods: Polymerization to solid with Component B and 50% benzoyl peroxide powder, or dispose of in accordance with current local, state and federal regulations.

Precautions to be Taken in Handling and Storage: Protect from sunlight and contamination. Indoor storage must be restricted to areas meeting NFPA/OSHA standards with overhead sprinklers. Avoid ignition sources; no smoking. Maintain fresh air supply in storage areas. Allow air space over liquid within containers. Ground all containers when transferring liquid; keep closed when not in use. Advisable to use within six (6) months. Maximum storage temperature 90F (32C).

Other Precautions and/or Special Hazards: Containers remain hazardous when empty. Product residue is hazardous and flammable. Do not cut, drill, torch, or weld on or near containers. Do not reuse.

NFPA Rating: Health: 2 Flammability: 3 Reactivity: 2 Special: Not applicable

SECTION 8 - SHIPPING INFORMATION

Proper DOT Shipping Name: Resin Solution
Hazard Class: Flammable Liquid
Reportable Quantity (RQ): MMA 1000 lbs (454 kg)
Label: Flammable Liquid
UN No: 1866
Class: 3
Packaging Group: II
NMFTA Item: 156240
Class: 60
Authorized Container: 55 lb (25 kg) pail or 440 lb (200 kg) drum meeting UN1A1, UN1A2, UN1H1, or UN1H2

Prepared by: Technical Director
Date: 08/92
Supersedes: 06/92

MATERIAL SAFETY DATA SHEET

Manufacturer/Supplier: Stirling Lloyd Products, Inc.
Address: 2701 Summer Street Suite 200, Stamford, CT 06905
Telephone: 203-363-2084 (for information/emergency)
Fax : 203-363-2184

SECTION 1 - MATERIAL IDENTIFICATION AND INFORMATION

Trade Name: PAR1
Chemical Name: Methyl methacrylate - based dispersion
Application: Concrete primer for Eliminator system and related products.

Components*	Trade Secret Registry Numbers**	CAS No.	Weight %	OSHA PEL	ACGIH TLV
Methyl methacrylate (MMA)[1-6]		80-62-6	60-100	100 ppm	100 ppm
Acrylic polymer (non-hazardous)[5]	NJ 80100283-5013p	Not applicable	30-60	None	None
2-Ethylhexyl acrylate[4-6]		103-11-7	10-30	None	None

*These components are subject to the following reporting requirements as noted above:
[1] SARA Title III Section 304 [2] SARA Title III Section 311-312 [3] SARA Title III Section 313
[4] M.G.L. c.111F Section 5 [5] N.J.A.C. 8:59-2 [6] 34 P.C. Section 305

**Trade secret registry numbers for the product as a whole have been assigned as follows:
Massacusetts TS-99-243-013

SECTION 2 - PHYSICAL/CHEMICAL CHARACTERISTICS

Appearance and Odor: Colorless mobile liquid with characteristic methacrylate odor (sweet ester odor).
Odor Threshold: MMA < 0.34 ppm
Specific Gravity ($H_2O = 1$): 1.03
Vapor Pressure: MMA 40 mm @ 77.9F (25.5C)
Vapor Density (Air = 1): MMA 3.45
Evaporation Rate (Butyl acetate = 1): >1
Boiling Point: MMA 214F (101C)
Melting Point: MMA - 58F (-50C)
pH: Not available
Coefficient of Water/Oil Distribution: Not applicable
Water Reactive: No

SECTION 3 - FIRE AND EXPLOSION HAZARD DATA

Flash Point: 52.7F (11.5C) CC
Auto-Ignition Temperature: MMA 790F (421C)
Flammability Limits in Air % by Volume LEL: MMA 2.1%
UEL: MMA 12.5%
Extinguisher Media: Alcohol foam, carbon dioxide, dry chemical, water fog, cover with sand.
Special Fire Fighting Procedures: Evacuate area. Wear self-contained breathing apparatus (NIOSH/MSHA -approved) and protective clothing. Use water spray to cool warm or bulging containers. Maintain safe distance or protected location. Carefully loosen bung valve to vent pressure. Reclose and dispose of container.
Unusual Fire and Explosion Hazards: Vapor is heavier than air and forms explosive mixture @ 21000 ppm, 1 atm (760 mm Hg), 77F (25C). Vapor may travel to distant source of ignition and flash back. Heat, aging or contamination can lead to polymerization and/or violent rupture of sealed containers.

SECTION 4 - REACTIVITY HAZARD DATA

STABILITY Stable: X Unstable:
Conditions to Avoid: Aging, electrostatic buildup, heat, ignition sources, sunlight. Maintain fresh air supply in storage area. Allow air space over liquid within containers.
Incompatibility (Materials to Avoid): Radical sources (e.g. acids, alkalies, amines, azo compounds, heavy metal ions, peroxides, rust, sulfur compounds), other foreign matter. Paints and various plastics can be softened/dissolved by this material.
Hazardous Decomposition/ Combustion Products: Water, oxides of carbon.

HAZARDOUS POLYMERIZATION: May Occur: X Will Not Occur:
Conditions to Avoid: Contamination with radical source or other foreign matter, heat, sunlight.

SECTION 5 - HEALTH HAZARD DATA

PRIMARY ROUTES OF ENTRY: Eye Contact: X Inhalation: X Ingestion: Skin Absorption: X Skin Contact: X Not Hazardous:

TLV (ACGIH): See Section 1
PEL (OSHA): See Section 1

TOXICOLOGICAL DATA -

LC 50:	MMA 3750 ppm rat ihl, others not available.
LD 50:	MMA 9400 mg/kg rat orl, 2-EHA 6500 mg/kg rat orl, others not available.
Carcinogen Listed In:	
NTP:	No
OSHA:	No
IARC Monograph:	No
C.H.S.C. Section 25249.5:	No
Mutagenicity:	Not available
Reproductive Toxicity:	Not available
Teratogenicity:	Not available
Name of Toxicologically Synergistic Products:	Not available

HEALTH HAZARDS -

Acute:	Irritant to eyes, skin and respiratory system. Do not wear contact lenses when using this product.
Chronic:	None known.
Signs/Symptoms of Exposure:	Dermatitis, dizziness, drowsiness, headache, nausea, unconsciousness.
Medical Conditions Generally Aggravated by Exposure:	Conjunctivitis of the eye, dermatitis, asthma, respiratory diseases.

EMERGENCY FIRST AID PROCEDURES - Seek immediate medical assistance for further treatment, observation and support.

Eye Contact:	Flush eyes with running cold water for several minutes.
Skin Contact:	Wash skin thoroughly with soap and water. Remove contaminated clothing.
Inhalation:	Move patient to fresh air; keep warm and at rest. Loosen clothing.
Ingestion:	If conscious, dilute by giving two glasses of water to drink. Do not induce vomiting. If unconscious, transport to hospital.

SECTION 6 - CONTROL AND PROTECTIVE MEASURES

Respiratory Protection:	NIOSH/MSHA-approved organic vapor respirator when exposure limits are exceeded; self-contained apparatus during emergencies.
Protective Gloves:	Impervious, e.g. neoprene.
Eye Protection:	Splash-proof goggles meeting ANSI Z87.1 - 1989.

VENTILATION TO BE USED:

Local Exhaust:	Cross-ventilation when within exposure limits.
Mechanical:	Explosion-proof ventilation at point of operation when limits are exceeded.
Other Protective Clothing and Equipment:	Clothing based on impervious, anti-static materials, eye baths, fire extinguishers, safety showers.
Hygienic Work Practices:	Wash hands thoroughly after use. Dispose of contaminated clothing.

SECTION 7 - PRECAUTIONS FOR SAFE HANDLING AND USE / LEAK PROCEDURES

Steps to be Taken if Material is Spilled or Released:	Evacuate area. Eliminate ignition sources. Wear protective gear. Dike and absorb spill with inert material (e.g. sand, sawdust, vermiculite, etc.). Collect with non-sparking tools and place in leak-proof containers for disposal. Prevent spills from reaching sewers and open bodies of water. Report spills in excess of RQ to local authorities.
Waste Disposal Methods:	Polymerization to solid with 50% benzoyl peroxide powder, or dispose of in accordance with current local, state and federal regulations.
Precautions to be Taken in Handling and Storage:	Protect from sunlight and contamination. Indoor storage must be restricted to areas meeting NFPA/OSHA standards with overhead sprinklers. Avoid ignition sources; no smoking. Maintain fresh air supply in storage areas. Allow air space over liquid within containers. Ground all containers when transferring liquid; keep closed when not in use. Advisable to use within six (6) months. Maximum storage temperature 90F (32C).
Other Precautions and/or Special Hazards:	Containers remain hazardous when empty. Product residue is hazardous and flammable. Do not cut, drill, torch, or weld on or near containers. Do not reuse.
NFPA Rating:	Health: 2 Flammability: 3 Reactivity: 2 Special: Not applicable

SECTION 8 - SHIPPING INFORMATION

Proper DOT Shipping Name:	Resin Solution
Hazard Class:	Flammable Liquid
Reportable Quantity (RQ):	MMA 1000 lbs (454 kg)
Label:	Flammable Liquid
UN No:	1866
UN Class:	3
Packaging Group:	II
NMFTA Item:	156240
Class:	60
Authorized Container:	55 lb (25 kg) pail or 440 lb (200 kg) drum meeting UN1A1, UN1A2, UN1H1, or UN1H2.

Prepared by:	Technical Director
Date:	08/92
Supersedes:	05/92

Akzo Chemie America

NOURY CHEMICALS
300 S. Riverside Plaza
Chicago, IL 60606

MATERIAL SAFETY DATA SHEET

EMERGENCY TELEPHONE NO.	NFPA 704 HAZARD RATING		MSDS NO.
AKZO CHEMIE AMERICA 716-433-6779	4 = Extreme, 3 = High, 2 = Moderate, 1 = Slight, 0 = Minimal, ● = Chronic Health Hazard	HEALTH 2	08-067007 -1
312-906-7686		FIRE 1	PRODUCT CODE NO. 67007
		REACTIVITY 1	ISSUED 6-03-86 · REVISED 3-3-87

1 PRODUCT IDENTITY

PRODUCT NAME/LABEL: Cadox® BFF-50

CHEMICAL FAMILY: Organic Peroxides/Diacyl Peroxides

CHEMICAL NAME/SYNONYMS: Benzoyl Peroxide (Phlegmatized)

CAS NO.: Mixture | TSCA INV. NO.: Acceptable Mixture | FORMULA: $(C_6H_5CO)_2O_2$

2 HAZARDOUS INGREDIENTS

CAS NO.	COMPONENTS	%	ACGIH TLV (PPM or mg/M³)	OSHA PEL	CARCINOGEN REFERENCE APPLIES
94-36-0	Benzoyl Peroxide - (BPO)	~50	5*	5*	NA
Proprietary	Phthalate Plasticizer	~50	10*	15*	NA

3 SHIPPING DATA

DOT SHIPPING NAME: Benzoyl Peroxide, 50% with inert solid

DOT HAZARD CLASSIFICATION: Organic Peroxide

IMCO CLASS: 5.2 | UN NO.: UN 2089 | IMDG: NA | IATA NO.: Forbidden | CORROSIVE TO: [ ] To Skin [ ] To Steel [X] To Metals

4 PHYSICAL PROPERTIES

INITIAL BOILING POINT	MELTING POINT	POUR POINT	MOLECULAR WEIGHT	SPECIFIC GRAVITY
NA °C °F @ mmHg	NA °C °F	NA °C °F	242.2	NA @ °C

VAPOR PRESSURE (mmHg)	VAPOR DENSITY (AIR=1)	SOLUBILITY IN WATER % by weight	VOLATILES BY WEIGHT	EVAPORATION RATE
ND @ °C	ND	Insoluble	NA	ND

APPEARANCE & ODOR: White granules with a slight odor.

5 FIRE AND EXPLOSION DATA

FLASH POINT: NA °C °F | TEST METHOD: | FLAMMABLE LIMITS IN AIR: ND % By vol | AUTO IGNITION TEMPERATURE: ND °C °F | DOT EMERGENCY GUIDE: 49

EXTINGUISHING MEDIA: [ ] Not Combustible [X] Water fog or spray [X] CO_2 [X] Dry Chemical [ ] Alcohol Foam [X] Foam [ ] Earth or mud

SPECIAL FIRE FIGHTING PROCEDURES: Evacuate area and apply water from a safe distance. Spray water on the nearby peroxide containers to prevent overheating.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Peroxides and decomposition products are flammable and can ignite with explosive force if confined.

6 REACTIVITY DATA

STABILITY: [ ] Stable [X] Unstable

CONDITIONS CONTRIBUTING TO INSTABILITY: [X] Thermal decomposition [ ] Photo degradation [ ] Polymerization [X] Contamination

HAZARDOUS POLYMERIZATION: [X] Will Not Occur [ ] May Occur

INCOMPATABILITY (AVOID CONTACT WITH): [X] Strong acids [X] Strong alkalis [X] Strong oxidizers Reducing agents, accelerators.

HAZARDOUS DECOMPOSITION PRODUCTS (THERMAL AND OTHER): On decomposition, Cadox® BFF-50 peroxide can produce flammable and toxic vapors & Biphenyl (TLV = 0.2 ppm).

CONDITIONS TO AVOID: [X] Ignition sources [X] Temperatures above 49°C 120°F RECOMMENDED MAX. STORAGE TEMP: 38°C(100°F)

7 SPILL OR LEAK

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED: [ ] Keep upwind [X] Avoid skin contact [X] Flush with water [ ] Absorb with sand or inert material [ ] Neutralize [X] Sweep or scoop up and remove [ ] Prevent spread of spill

Wet with water and remove with non-sparking tools.

WASTE DISPOSAL – Consult federal, state, and local authorities for proper disposal procedures.

UNDER RCRA THIS PRODUCT IS CLASSIFIED AS: [ ] Ignitable [ ] Corrosive [X] Reactive [ ] EP Toxic [ ] Listed [ ] Not a RCRA hazardous waste, not yet incorporated

UNDER CERCLA (SUPERFUND) REPORTABLE QUANTITY: RQ = NA Pounds

Thoroughly rinse empty containers

Before using product, read and follow directions and precautions on product label and bulletins

MSDS NO. 08-067007

TOXICITY

8 ACUTE

DERMAL (SKIN) LD_{50}-ND - Not a primary skin irritant or corrosive hazard to skin (based on rabbit tests with 78% wet BPO).

EYE Draize Score-Unknown - Results on rabbits characterized as "minor reactions" for 50% paste and 93% powder.

INHALATION LC_{50}-ND - At 24.3 mg/l (rats-4-hour exposure) 78% wet BPO was "not a highly toxic substance."

ORAL LD_{50}-ND - At 5000 mg/kg level (rats), 78% wet BPO was deemed "not a toxic substance". LD50 = >15,000 mg/kg(rat) for phthalate.

OTHER

Mutagenicity - Negative in the Ames test for 78% wet BPO. Benzoyl Peroxide has given negative results in several skin painting studies (mice) and positive results in one such study (mice). The relevance of the positive result, if any, to humans is not known at this time.

HEALTH HAZARD INFORMATION

9 Effects of Over Exposure

DERMAL

Prolonged skin contact may cause skin irritation and redness.

EYE

Contact may cause eye irritation and/or damage.

INHALATION

May cause irritation of the nose, throat and lungs.

INGESTION

May cause toxic effects.

10 Emergency First Aid

DERMAL Remove contaminated clothing immediately. Wash affected skin thoroughly with soap and water. Seek medical attention if indicated. Launder clothing before reuse.

EYE CONTACT

[X] Immediately flush with water for at least 15 minutes. Contact lenses should be removed if the initial flush doesn't wash them out [X] Get medical attention

INHALATION

[X] Remove to fresh air [X] If not breathing give artificial respiration [X] Give oxygen if needed [X] Get medical attention if indicated

INGESTION (NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON) Get medical aid immediately.

[X] Do not induce vomiting [ ] Induce vomiting [X] Give plenty of water [X] Get medical attention Contact local poison control center. Rinse mouth.

SPECIAL PROTECTION INFORMATION

11 HANDS (GLOVE MATERIALS TO MINIMIZE CHEMICAL CONTACT)

[X] Neoprene [ ] Natural rubber [ ] Poly ethylene [ ] Butyl rubber [X] Polyvinyl alcohol [ ] Polyvinyl chloride Nitrile rubber protects well.

EYES

Eye protection must be worn.

VENTILATION REQUIREMENTS – Always maintain exposure below permissible exposure limits

Sufficient to prevent accumulation of vapors or particulates.

RESPIRATOR TYPE – For reducing contaminant concentration in inhaled air

[X] Filter - dust, fume, mist [ ] Can or cartridge gas or vapor

OTHER

[X] Safety shower and/or eye wash should be available Chemical-resistant apron or coveralls may be needed.

SPECIAL PRECAUTIONS

12 [X] Do not store near combustibles [X] Wash thoroughly after handling [X] Do not get in eyes, on skin or clothing [X] Do not breathe dust, vapor mist, gas [X] Keep container closed [ ] Keep from freezing [X] Empty container may contain hazardous residues [X] Keep away from heat, sparks and open flames

[X] Use explosion proof equipment Keep away from all sources of heat and ignition such as radiators, steam pipes and direct sunlight.

OTHER

13 For more safety data, see Noury's product data sheets & Bulletin 85-5 "Organic Peroxides Safety and Handling", and NFPA Bulletin 43B "Storage of Organic Peroxide Formulations". Store in original containers. Select storage areas in accordance with local laws and regulations.

PREPARED BY – PRODUCT GROUP | REVIEWED BY SAFETY | HEALTH

Narrative

Field Notes

U.S. Department of Labor

Occupational Safety and Health Administration

EIN = Fed ID

1. Establishment Name:	2. Inspection Number

3. Type of Legal Entity	4. Type of Business or Plant

5. Additional Citation Mailing Addresses

(1) Name _____

Attn: _____

Street Address _____

City _____ State _____ Zip _____

(2) Name _____

Attn: _____

Street Address _____

City _____ State _____ Zip _____

6. Names and Addresses of All Organized Employee Groups:	C M	7. Authorized Representatives of Employees:	W A
Name	☐ Y	Name Tele. No.	☐ Y
Local No. Tele. No.		Organization Title	
Address		Home Address	
Zip Code		Zip Code	
Name	☐ Y	Name Tele. No.	☐ Y
Local No. Tele. No.		Organization Title	
Address		Home Address	
Zip Code		Zip Code	

8. Employer Representatives Contacted: I = Credentials Presented C = Closing Conf. O = Opening Conf. M = Other Mgmt. Official	W A	9. Other Persons Contacted:
Name Title Function		~6 months on site. 4 yrs w/ co.
Safety Specialist ✓	☑ Y	Name, Occupation & Affiliation - varies
Project Manager	☑ Y	Home Address Tele. No.
Project Engineer	☑ Y	Zip Code
Assistant Safety Director Day 2 ✓	☐ Y	Name, Occupation & Affiliation
10. Coverage Information		Home Address Tele. No.
		Zip Code

11. Date & Time of Entry:	12. Date & Time Walkaround Began:	13. Date & Time Closing Conference Began: (1) (2)	14. Date & Time of Exit:

15. Follow-up Inspection Recommended:

Yes ☐ No ☐ Reason:

16. CSHO Signature & Date:	17. Accompanied by:

46. 8 workers/ 67.9
Leaves 5:10 6:14

10/14/97
Had to grind deck up alittle bit.
Started last week. 10/9/97 2 ees grinding.

PAPR's - MSA's

Full Face Model MIC2 (medium) — 3 of same kind
TC ~~##~~-23C-1056
Optifilter GMC-H Organic Vapors
Acid Gases
Particulates

CAUTION = Replace cartridges when odor or taste of contaminant is present or, if using PAPR when air flow falls below 4 cubic feet per minute.

Stored in closet in nylon bag.

Also using
3M 6000 Disposable

2047 High Efficiency Filters - Nuisance Level* Organic Vapor Relief

TC-21C-606 use w/ 3M 6100 S M L

One employee wears AO Cabot Half Mask
TC-21C-533 ~~issued~~ ~~assigned~~ to respirator

Eng Controls
Seabreeze blowing it away
Don't get it on themselves

Grinding may be an hour they don't do

Coming Up - When Everything is Stripped

Depends on what is [illegible] for rot [illegible] or patch work.

Dress up piers and everything - depending on what inspectors say,

- Here for 4 months. Knowledge of Lead from Mills
- Training for Employees
  - Has Com
  - Lead

Volunteer Fire

No trailer just for cleaning - Rubbermaid Container
Rain/Water through it
coffee pot w/ filter in place
Add Dawn

will be bringing in Cleanup trailer for when Lead starts.

May have Sub Contractor ~~should do this~~ but still will be providing trailer.

Done here everyday Then ees take home for more thorough cleaning

Haz Com - Sample MSDS
Training 9/8/97 NFPA Labeling

also Haz Mat Technician due to being Major Highway

THIS years training 8/27/97
Fire Safety
~~Bloo~~ BBP
Fall Protection
BBP
Fire Safety

7/19/97
Fall Prot.
Hands
Platform work

9/10/97 30 min.
Also did fall protection training. for State ees.
needed
10 feet above water
or if Platform
6 feet.

Guys doing grinding don't need fall protection

Job Location
Dover
1165

Eng Tech
"
"
- Proj. Eng.

Report ran
9/8/97 w/ Dates of fit testing
Irritant Smoke -
Done here

Company provides PFT and Fit test

Ee Name Status SSN Questionnaire PFT Fit Test Comments

6/23/97 Approved 5/10/95 Pass

6/23/97 Questionnaire → Restricted w/ 3 due to high blood pressure
PFT 6/10/95.
Then monitored OK for 3 consec. days okayed
now back to 5 for heavy work

6/23/97
M 3M 6000
Passed
Fit test
6/23/97
S-AO

Work Modifications File

Sub doing Shot Blasting -

Certificate of Calibration
AP Buck, Inc., mini-Buck calibrator

Serial No. 051093 Cal. date 3-31-97
Model M-5 Next due date 3-31-98

Applic. Measurement Standards
0-1000 Buret Mfr. Kimble Model 17081 SN 002 N.I.S.T Special 17081

Stopwatch CMS 387-621 SN 0996605 4/29/98 NIST Level "C"

This calibrator as received at A P Buck, Inc.'s facility is: ☐ in ☒ not in* specification

*Out of specification by High 1/2 % Low ___

Start
6:30 - 5:00

Did grinding for
Thurs 10/9 - Few Hours
10/10 Friday No grinding - Paving day - 3 am people here moving barrier rest had off
10/13 Monday Grinding - approx. 2 hrs (no lane closure)

Subs Shot blasting yesterday
Part of this morning

Sub Centurion Connecticut. approach
steel shot on the deck (to roughen up surface applying spray membrane)
self contained vacuumed
Walk behind w/ vacuum system

Davis Weather Monitor
67°F
50% Humidity
52° DewPoint
30.43 in. Barometric
Trend →

39 Safety Specialists w/ Company (Cianiro)

Sample B-1 Bulk of Remainder of Dust from Shot Blasting Centurion

Other Subs on-site

No Grinding Nothing to do w/ Concrete

Black Paving – Paving Only

Severino – Earth work – approaches, etc.

Grinding – on deck – finished til next year
Yesterday.

Centurion – Shot Blast – finished
May have to grind
Piers – it
possibly 10min - 2hr.
~~[illegible]~~ (Hilti) 10" wheel (diamond)
put on a regular hand held grinding

May do from scaffolding
water level
Scissor lifts underneath
doing stripping
plywood, etc.
May do now

Black & Decker
4075 Type 5
Right Angle Sander
SN 098290
5000 RPM
120 V UL listed

~~6 ft.~~ 9 ft. cord

Resp. Cleaning Pad in ~~Box~~ Locker

or

Primer
~~Seal~~ is Clear
Two layers of membrane one mustard gold
next gray
Then Tack Coat

2500 sq ft.
Barge fits between piers
60' x 80' Barge
Get there by boat

Power Pack - moves Spuds
Spuds

Crane Operator
Mechanic working on crane

Crane is on land for daily maintenance only.

Started stripping under the barge since last week.

Crew Trailer on Barge.

10 ton rollers used for paving (sub) - So don't have to wait for it to set like when have driveway done

Deck Grinding were 3M

Pointing & Patching
- Most done Thursday - Many cracks, etc. 5-6 hours
- Same Monday

Concrete chipped
↓ sharp ridges

Paint & Patch
QC type Thing
State will double control

Start on one end, clean all

↓ Kicking up sand & stuff

B&D
Right Angle Grinder
standard tool.

only allowed to grind for 15 min without stopping

No corners

Confined area - PAPR
3M rubber mask w/ disposable cartridges

will do same tomorrow

need dry surface to grind.

When Drilling keep wet to keep dust down
dump bucket of water on it.

Have had Fit test

Have to beam clear shaven

Visual check filter
Change sometimes at noon.
or If start to smell or taste.

→ Smoke tubes - Done last spring.

Don't know if there are any eng. controls available.
Copous Blowers if indoors
either blow fresh air or take bad stuff out.
Formula for how many need

Won't get smooth surface. if use water when grinding

Have had training.

Was on Portland Bridge until Spring 1997 (3 yrs.) 4 yrs. w/ Co

If start new grinding project or team (paint 'n patch team)

Physicals - No chest x-rays (don't want) worried about radiation

Rain Pants
also have white suits

Clean Up - no showers - wet wipes, may shower at home.

daily grinding - Maybe one hour approx. 8-9 or 10 1-2 hours worth of grinding

eaten tide high around noon.

on site by 6:30

could be grinding by seven

Water based - paint & patch (portland cement)

Per:

Bulk is Portland Cement

WR Grace Materials - Additive Daracem 100

Rocks/Stone for aggregate.

helps to retard the set time so workable longer

Darex II

increases slump

Dragon Type II

more of a soupy mix so don't need as much water

called @ 2:05pm 10/15/97

Today
Just started grinding

Today started afternoon
Will be doing for most of afternoon

Pier
is in today
also grinding
Float

6:30 Stretches 20 min. start 6:30 briefing activity plan
heading out to Float - 7:00

Doing for about 1 hr.

Tomorrow also Grinding
not on Friday
4 day week

Not working on Friday

TSP monitoring
Area monitor

Personnel Monitor
2 days for Bulk %
2-3 days for air sample %
PEL

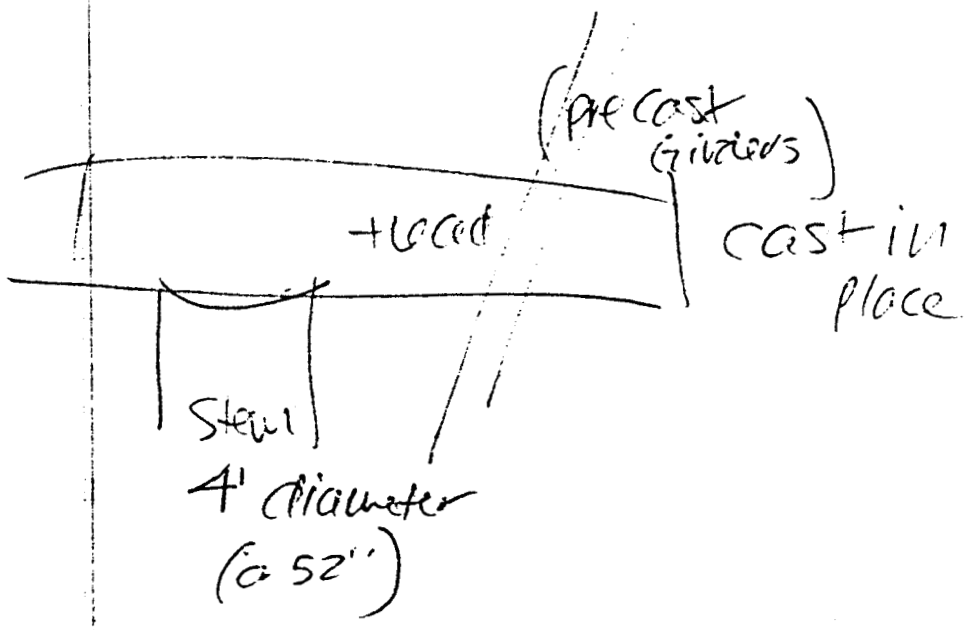
Injury maintenance - have to go w/ ee to Dr. Appt.
- not on site last Thursday (when majority of grinding was done

10/16/97

Black + Decker
Professional Grinder
SN 26612

AG933

120 V
5000 RPM



U.S. Department of Labor

Occupational Safety and Health Administration
Concord Area Office
279 Pleasant Street, Suite 201
Concord, NH 03301
(603) 225-1629
(603) 225-1580 FAX

December 12, 1997

Reply to the Attention of: 200606291

Mr.

Dear :

In response to your complaint concerning health hazards at the Occupational Safety and Health Administration conducted an inspection there. That inspection was initiated on October 14, 1997.

The results of our investigation of your complaint items are as follows:

Employees who were grinding on concrete surfaces were exposed to respirable silica above the permissible exposure limit, and no engineering controls were in use.

Attached for your information is a copy of the OSHA 2, Citation and Notification of Penalty, which was sent to your employer on December 12, 1997, and should have been posted at the workplace for at least three days after receipt.

If you do not agree with our inspection results, you may contact me for a clarification of the matter. You also have the right to an informal review by the OSHA Regional Administrator who may be contacted at the following location:

Mr. Regional Administrator
U. S. Department of Labor
Occupational Safety and Health Administration
JFK Federal Building, Room E-340
Boston, MA 02203
(617) 565-9860

This review may be obtained by submitting a written statement of your position to the Regional Administrator. The Regional Administrator will provide the employer with a copy of such statement by certified mail. Your identity will be withheld unless you explicitly request that it be revealed.

Thank you for your concern for a safe and healthful workplace.

Sincerely,

[redacted]
Area Director

Enclosure

U. S. Department of Labo
Occupational Safety and Health Administration

Notice of Alleged Safety or Health Hazards

		Complaint Number		200606291
Establishment Name				
Site Address	Dover, NH 03820			
	Site Phone		Site FAX	
Mailing Address	, Pittsfield, ME 04967			
	Mail Phone		Mail FAX	
Management Official			Telephone	
Type of Business	highway construction			

HAZARD DESCRIPTION/LOCATION. Describe briefly the hazard(s) which you believe exist. Include the approximate number of employees exposed to or threatened by each hazard. Specify the particular building or worksite where the alleged violation exists.

DESCRIPTION:
Employees grinding on concrete surfaces are exposed to respirable silica and no engineering controls are in use.

LOCATION:
]

Has this condition been brought to the attention of:	
Please Indicate Your Desire:	**Do NOT reveal my name to the Employer**
The Undersigned believes that a violation of an Occupational Safety or Health standard exists which is a job safety or health hazard at the establishment named on this form.	**D. Other**

Complainant Name		Telephone	
Address(Street,City,State,Zip)			
Signature		Date	

If you are an authorized representative of employees affected by this complaint, please state the name of the organization that you represent and your title:

Organization Name: Your Title: **Safety Director**

OFFICIAL USE ONLY:

Identification	Reporting ID	**0111700**	Previous Activity	**0**	Opt. Number	
	Establishment Name Change? ☐Yes ☐No		Site Address Change? ☐Yes ☐No	Employer ID	City Code **0090**	County Code **017**
Receipt Information	Received By		Send OSHA-7? ☐ Yes ☐ No	Date: 10/09/97 Time: AM PM	Supervisor(s) Assigned	**K9321**
Industry & Ownership	Primary SIC	**1611**	Ownership	**A. Private Sector**		
Complaint Evaluation	Evaluated By Is this a Valid Complaint? -- **Yes** Formality -- **Non Formal** Migrant Farmworker Camp? --		Subject/Severity **Health-Serious**			
Send Letter	Type				Date Letter Sent	Date Response Due
Received Letter	Type			Date Letter Received	Evaluation	Abatement Date
Complaint Action	Inspection Planned? **Yes**	If Yes, Priority: **NP**	If No, Reason:			
	Transfer To (Name)		Transfer Date			
	Transfer To Category					
Optional Information	Type	ID	Value			
	N	16	Silica			
Close Complaint						

)MMENTS

OVER

Safety Director for Reed + Reed, called CAO from his car phone as he was crossing the to report high levels of concrete dust where employees of were grinding or cutting concrete. He said that they should have to use engineering controls too where we had cited them previously on the Exit 13 bridge in Concord. Employees were wearing air purifying respirators, but no engineering controls were in use.